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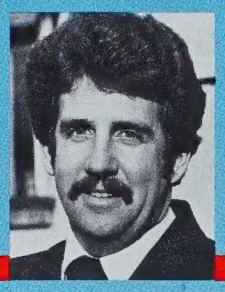

Tom Eddy
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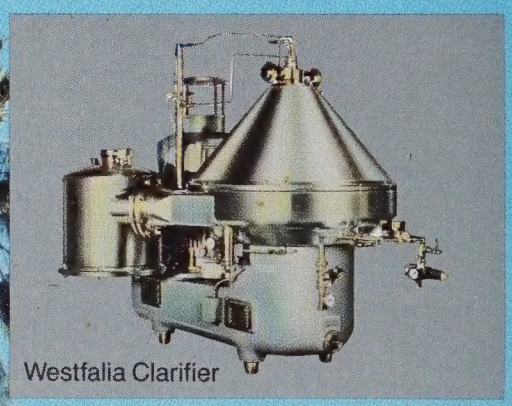

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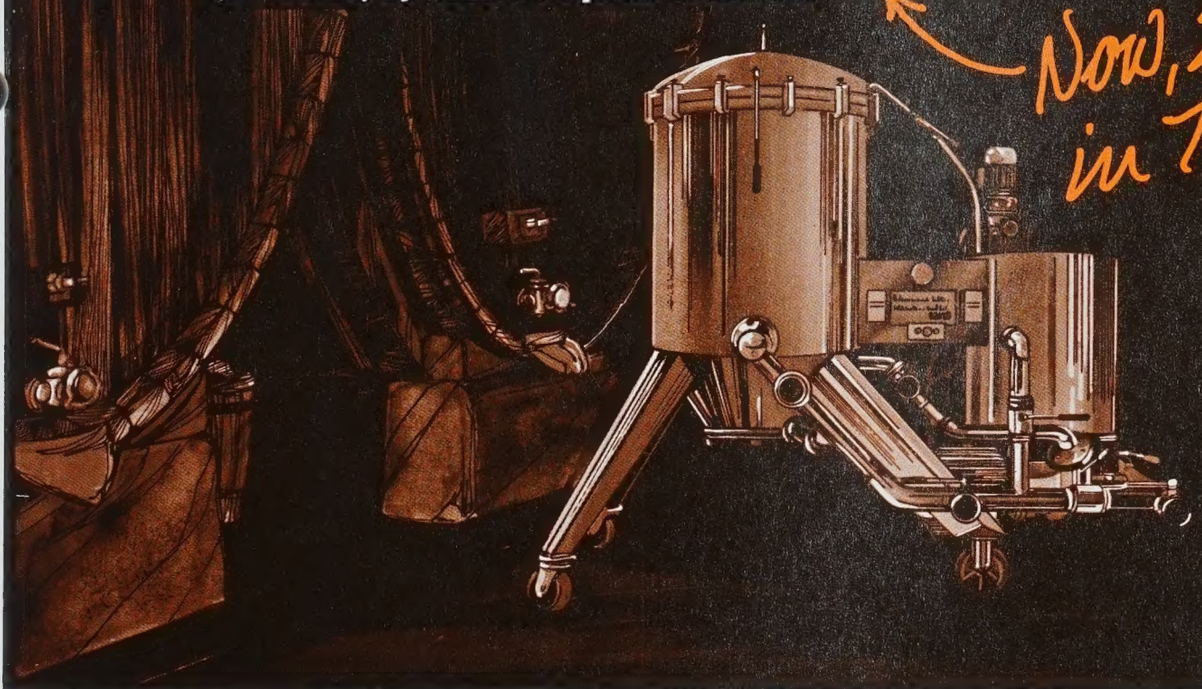

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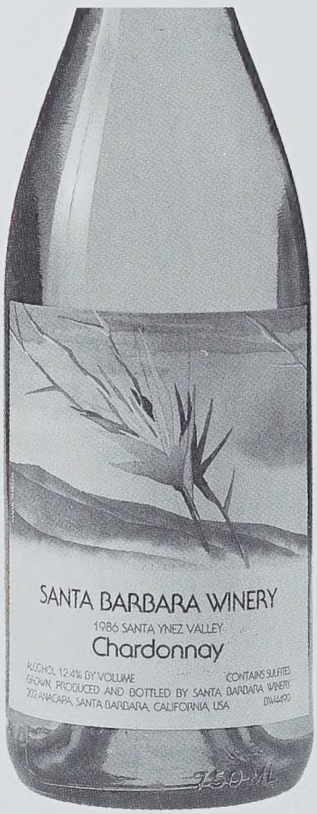

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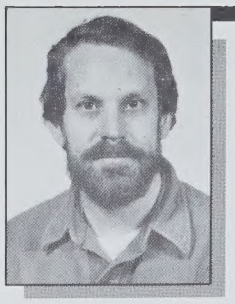
Marketing

Cover
Winter in the Yakima Valley, Washington, with Red Willows Vineyard in the foreground and Mt. Adams, a dormant volcano in the Cascade Mountain Range, in the distance. Photo by Michael Sauer.

"Wine measurably drank, and in season, bringeth gladness to the heart, and cheerfulness to the mind.
Ecclesiasticus 31:28



The Wine Retailer

Stan Hock

Triumph of a Salesman

One day during the spring of 1986, Steve Situm walked into my wine shop and offered me a deal he said I couldn't possibly refuse. Every wine merchant has heard this line a thousand times, of course, but, in this instance, it proved to be true.

Situm presented a 1984 Chardonnay and 1982 Cabernet Sauvignon from Stephen Zellerbach Vineyard in Healdsburg, CA. Both wines had been selling in California for $80/case wholesale ($10 standard retail), but Situm was offering them to me—and to some 25 other retailers in northern California—for $40/case. "You can price them at $5.99, make 44% profit on sale, and still offer your customers a terrific value," Situm said.

After tasting the wines, I agreed that was a pretty good idea. Eighteen months and several hundred cases later, I still am following Situm's advice. The wholesale cost of the Zellerbach wines has risen to $48/case, but my partners and I have maintained our above-average profit margin on them by raising our retail price to $6.49, still extraordinarily attractive for wines of this caliber. In fact, the Zellerbach 1986 Chardonnay won the Sweepstakes Award at the 1987 Sonoma Harvest Fair, besting 700 other wines, many of which cost twice as much.

Why has Steve Situm, a veteran wine salesman, been selling Stephen Zellerbach wines at half-price for the past year and a half? It's an interesting story, one which may contain an object lesson or two for small wineries who hook up with big distributors, only to find themselves seduced and abandoned.

A Born-Again Label

Stephen Zellerbach Vineyard was founded, logically enough, by Stephen Zellerbach, scion of the family which made a fortune in the paper business (Zellerbach's uncle, James D. Zellerbach, was a U.S. Ambassador to Italy and founder of Hanzell Vineyards in Sonoma, CA). In the early 1970's, Zellerbach planted 70 acres of Cabernet Sauvignon and Merlot grapes in the Alexander Valley. By 1982, he had constructed a winery.

The wine gods, however, did not smile on Zellerbach's vinicultural labor of love, and in 1986 he sold his winery, its name and roughly 50,000 cases of inventory to William Baccala, an insurance magnate. Baccala had acquired an 111-acre vineyard site in Mendocino County in 1981, subsequently establishing the Villa Baccala and Fawn's Glen brands, which later were superseded by the William Baccala brand. Lacking a winemaking facility, he leapt at the opportunity to purchase the reasonably-priced, fully operational Stephen Zellerbach winery.

In March, 1986, Baccala hired Steve Situm, then representing Tepesquet Vineyard, to be National Sales Manager for William Baccala and Stephen Zellerbach wines. "Baccala's plan at this time," says Situm, "was to liquidate the existing Zellerbach inventory as quickly and profitably as possible, in order to concentrate on selling the wines under his own label. In fact, he was thinking of dropping the Zellerbach label entirely." Situm, however, had other ideas.

"As I was depleting a lot of this merchandise," Situm recalled, 'I was thinking: 'hmmm, Zellerbach, paper, everybody knows the name, we could do something with this.' Marketing was done nationally by Bercut-Vandervoort before we came in, and Bercut had wanted a California Bordeaux, so Zellerbach's production had been 95% Cabernet and 5% Chardonnay. I knew that wouldn't work—we had to turn it around, make at least 70% Chardonnay."

Situm inherited 25 out-of-state wholesalers from Bercut Vandervoort, and there were two in California. The northern California wholesaler had done well with the Zellerbach wines, but shortly after Baccala bought the winery, this wholesaler decided to drop the line. Situm also discovered that Bercut-Vandervoort hadn't exactly been boosting the brand out-of-state.

"In a month we went from 25 to 15 wholesalers. The wines just weren't moving. Bercut had gone from selling 10,000 cases a few years earlier to only 633 cases during the prior 12 months. I didn't know what the hell to do. If I tried to do business in the same old way, I was dead. Then it suddenly came to me—why not go direct? I've been in this business 25 years and I know a lot of people.

"We had two lots of 1984 Chardonnay in inventory. The stuff already in bottle was sold off, but there were 2500 cases in tank. Kerry Damskey, the winemaker we brought in from San Pasqual Winery, helped us clean it up. He worked with it a little, ran it through French oak, made it nice. It tasted good, so I said, 'let's sell this for $40/case and see what happens.'

"It was an absolute experiment. We came in at $40/case net, so nobody could buy the wine cheaper than anybody else. These were $10 wines, mind you, and I wanted to give the retailer a chance to make some money. If you sold them for $5.99, you could make 44% on sell. I mean, why give the consumer a discount when he's never going to complain about the price in the first place?"

What began as an experiment born of desperation soon became a marketing coup beyond the wildest dreams of Steve Situm and his associates. The 1984 Zellerbach Chardonnay sold out by the end of 1986, and 3,000 cases of 1985 Chardonnay sold out by June, 1987.

In September, 1987 alone, Situm sold 2000 cases of the 1986 Chardonnay (production rose to 15,000 cases with the 1986 vintage), even though he had raised the price of it and the 1982 Cabernet Sauvignon to $48/case on September 1. There are now 300 retail and restaurant outlets for the Zellerbach brand in northern California alone, plus 65 in Los Angeles. All of them buy direct from the winery.

Doing It the Old-Fashioned Way

The success of his program with the Zellerbach wines resulted from old-fashioned hard work and years of good sales training, according to Situm. "The way I did it was through route cards (a complete record of every account's sales activity), because I'm an old Gallo man, I started with Gallo in 1963. It's a great training ground for salesmen, each one of those guys back then was an absolute pro. I learned a tremendous amount about selling and concept and marketing, and those techniques work. It's all grassroots selling.

"I've visited every one of our 300 accounts in northern California and I follow up with regular phone calls. Today, in order for a salesman to be successful, he has to get to the basics. If he doesn't, he'll never make it. It's very difficult and competitive out there."

Situm was with the Gallo Sales Co. from 1963-71 and then worked for A.L. Romano Wine Company in San Francisco from 1972-84, eventually becoming Romano's sales manager. Romano was instrumental in building the Robert Mondavi brand in California and for years it also enjoyed a virtual monopoly on San Francisco's restaurant wine list trade.

Situm remembers his tenure at Romano with great fondness. 'It was the

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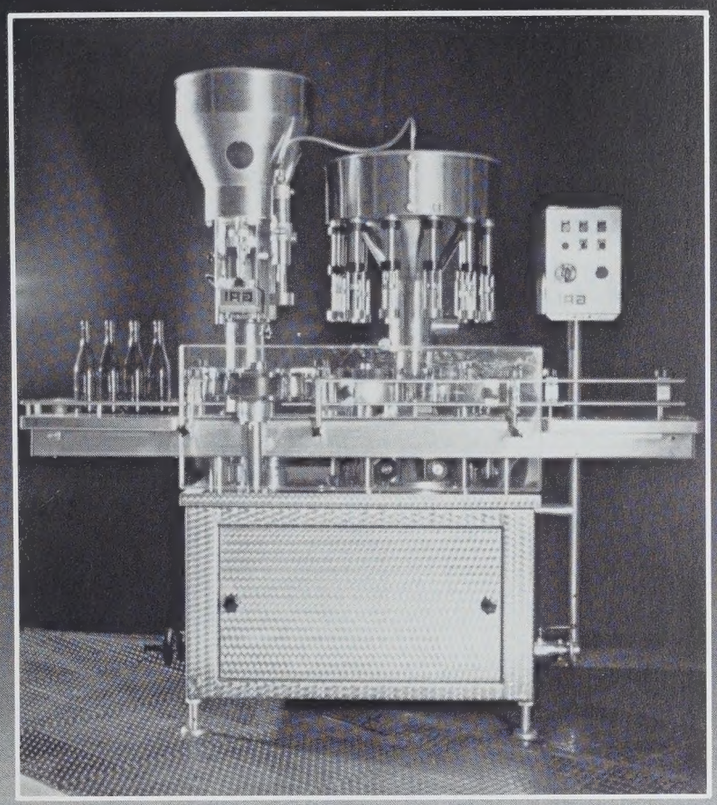

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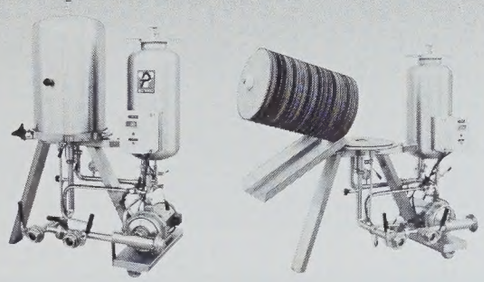

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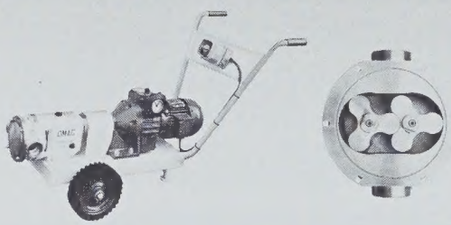

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greatest wholesale company ever to come down the pike," he says proudly. "We had 300 of the top restaurant accounts, and the lion's share of restaurant wine lists."

Romano closed its doors in 1986, at least in part a victim of the trend toward the consolidation of the wholesale liquor and wine industries, a trend Situm deplores. "The liquor industry introduced deep discounts into wine-selling," Situm says with distaste. "There were no special deals at Romano, 25 cases got you maximum discount. Today, you don't know who's buying what. There are wineries that have multi-container-load deals, so, no matter how much you're paying, you're paying too much, because chain outlets are gonna take that deal.

"One of the things I find when you work with wholesalers today is that you're locked in, you have no flexibility. I can't say no discount, because they all discount. I can't say no family plan, because they all have family plans. There's just no room for creativity."

Situm also thinks that the wine industry may be erring by placing too much emphasis on marketing and not enough on sales. "Marketing by itself doesn't work," he says, "because it isn't result-oriented. Sales is immediate, marketing takes time. I know, because I marketed the Zellerbach brand back from the grave. Realistically, it takes five years to build a brand. We've been lucky. I don't know of anyone who's gone through two vintages of Chardonnay in 12 months."

The production of Stephen Zellerbach Chardonnay has grown to 20,000 cases with the 1987 harvest. Situm foresees it peaking at about 50,000 cases, with Cabernet Sauvignon production eventually totalling 5,000–7,000 cases.

"We can afford not to make any money at this point because production is small, and we're still building the brand," he says. "When we get to 50,000 cases, then we'll begin to raise our prices. Eventually, the wine will sell for more, so we can make some money, but it will still be at a price where the retailer and the consumer both get a good deal. I want to have the best damn wine in the business for the price."

Situm naturally is elated at the success the Stephen Zellerbach brand currently is enjoying. "It's the hottest brand I've ever had," he exults, "and I've been in this business for 25 years." He adds: 'You know, if you love what you do, you'll be creative doing it. I love the feeling of having created something out of nothing. I feel fabulous about it."

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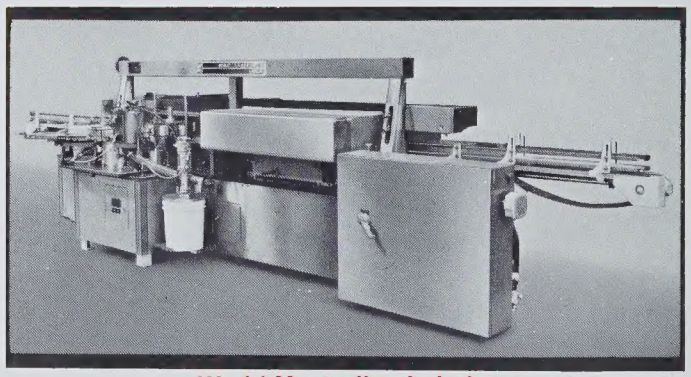
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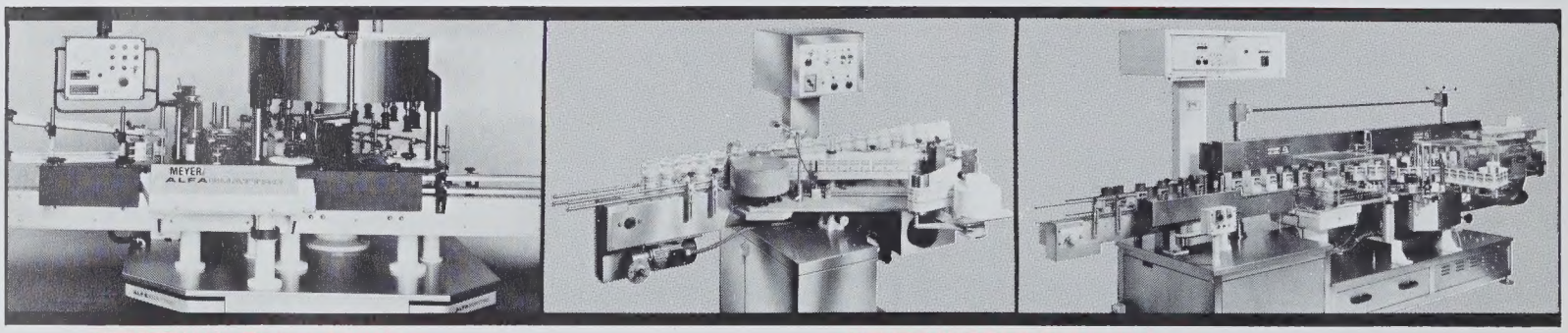

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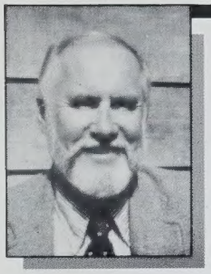

Winery Water & Waste

D.R. Storm, Ph.D, P.E.

Winemaker's Back

If this column tends to ramble slightly, it is probably because my thinking is being strongly influenced by a muscle relaxant I occasionally take for my spasm-wrought lower back. Winemaker's Back is a common malady among hands-on vintners who take pride in their ability to move heavy pieces of winery paraphernalia from point 'A' to point 'B' without assistance.

However, it doesn't take a 132-gal puncheon to devastate my back—a 37-lb case of Sauvignon Blanc did a nice job when jerked from a pallet with a twisting motion. Strengthening the back through an exercise program helps, but any thoughtless jerk, yank or twist can bring another 4 to 5-day stint of pain.

Winemaker's Back should be added to the list of other occupational maladies like housemaid's knee, tennis elbow, postman's arches, athlete's foot and truck driver's kidneys.

DISINFECTION

Winemakers deal almost daily, in one form or another, with the process of disinfection. Insuring the mortality of unwanted microorganisms is probably the most fundamental precept of food and beverage technology.

In water supply system engineering, pathogen-free water is essential for the protection of public health. Disinfection of sanitary wastewater is also employed where discharge of sewage-associated virus, bacteria and helminths into a stream, lake or estuary would impair beneficial uses of the water.

Methods

By far the simplest method is to sterilize water by pasteurization. A temperature of 150°F for 30 minutes is usually sufficient to denature the protein in any microorganism and render it harmless. (Steam generators used in wineries can produce dry or wet steam at about 180°F, sufficient to kill microorganisms on contact.) The use of heat, however, becomes impractical for large volumes of water or wastewater. Chlorine, ultraviolet light or ozone must be used to achieve the microorganism kill.

There are other chemical compounds that have the desired bacteriocidal or viricidal effects, but they are not widely used in sanitary engineering because of high cost or the inconvenience and difficulty of application. (Bromine, iodine, hydrogen peroxide, silver, lime and other mild alkaline agents are effective disinfectants.)

Chlorinaton

Chlorine is the most commonly used chemical for disinfection of water supplies and wastestreams. It is a dangerous chemical to handle in the gaseous form.* Its successful use depends upon proper application and control. The chemical reactions that takes place when chlorine is added to water at first glance look simple:

$$CL_2 + H_2O \rightarrow HOCL + HCL \quad (1)$$

$$HOCL \rightleftharpoons H^+ + OCL^-$$

$$HCI \rightleftharpoons H^+ + CL^-$$

The equilibrium equations would be this simple if chlorine was being added to pure water. Raw water supplies and wastewaters have varied constituencies and contain many inorganic and organic chemical substances, as well as living microorganisms.

Chlorine, with its aggressive oxidative character, reacts almost immediately when placed in contact with both simple and complex compounds. Some of the more well-known reactions between chlorine and materials commonly found in water are:

$$CL_2 + NH_3 \rightarrow NH_2CL + HCL$$
Ammonia Mono-chloramine

$$2CL_2 + NH_3 \rightarrow NHCL_2 + 2HCL$$
Dichloramine

$$3CL_2 + NH_3 \rightarrow N_2 + 6HCL$$
Nitrogen

$$CL_2 + H_2S \rightarrow S + 2HCL$$
Hydrogen Sulfide

$$CL_2 + 2Fe(HCO_3)_2 + 2H_2O \rightarrow$$
Ferrous Iron

$$2Fe(OH)_3 + 4CO_2 + 2HCL$$
Ferric iron

*Chlorine gas has an atomic weight of 35.46 and is 2.49X heavier than air. It is a greenish-yellow gas which, under pressure, is converted to a liquid. Its odor is detectable at a concentration of 3.5 ppm in air; 4 ppm is the maximum concentration that one can breathe for an hour without harm; 15 ppm causes throat irritation; 30 ppm causes coughing; 40 to 60 ppm is dangerous when inhaled for 30 minutes or more; and 1,000 ppm (1/10 of 1%) may produce death after 5 minutes' exposure.

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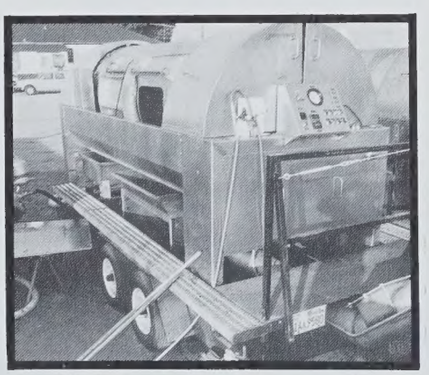

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The choloramines have been found to be slightly to moderately carcinogenic.[2] This recent discovery (1974) led the United States to adopt the widespread dechlorination of chlorinated wastewater with sulfur dioxide.

Dechlorinating drinking water supplies, however, might allow for recontamination of the water in the conveyance system (pipe network), thus undermining the waterworks practice of providing a 'chlorine residual' in most potable water supplies. Public health officials have decided that the low cancer risk from chloramines is preferable to water supplies that might produce large-scale epidemics of communicable, waterborne diseases.

There are other variables that affect the efficiency of chlorination, such as pH, temperature and the presence of ammonium ion. The complexity of these subprocesses is beyond the scope of this brief discussion of disinfection.

Ozone and Ultraviolet Light

Many possible alternatives to chlorination were studied in the late 1970's due to substantial increases in world crude petroleum prices. Petroleum refining forms the base for commercial chlorine production.

Ozone, a very strong oxidant with similar bactericidal properties to chlorine, may be superior to chlorine in terms of virus inactivation.[2] The sample chemical equation for ozone (O_3) is:

$2O_3 \rightarrow 3O_2$

Because ozone rapidly reduces to oxygen, there is no residual chemical in the finished water. On the other hand, neither is there an O_3 residual to prevent recontamination during conveyance or storage of the finished water.

Ultraviolet (UV) light is a physical disinfectant. UV radiation with a wavelength of 254 nanometers penetrates the cell wall of the pathogenic organism and is absorbed by the cellular nucleic acids.[3,4] As with ozone, UV radiation produces no toxic or carcinogenic residuals. A limitation with UV disinfection is the inability to achieve very high levels of microorganism mortality—*i.e.*, $\rightarrow$ 99.9%.

Most wineries which must disinfect water supplies or wastestreams will be content to remain with chlorination; however, it is sensible to know that other options exist.

Safety

One final caution to winery personnel who are responsible for the handling of chlorine and the supervision of the delivery and replacement of gaseous chlorine cylinders:

Personnel protection is extremely important in the handling of chlorine. An excellent publication entitled "Chlorine: Its Manufacture, Properties and Use" (American Chemical Society Monograph No. 154, Reinhold Publication Corp., New York, NY, 1982), contains a section on the 'Safe Handling of Chlorine' by E.J. Laubusch. The recommendations in this reference should be compared to the chlorine handling protocol now in effect in your winery.

David Storm is a consulting sanitary engineer and owner/winemaker of Winters Winery.

References

1. *Public Works*. Water and Wastewater Chemistry, July, 1967.
2. *Wastewater Engineering*. Metcalf and Eddy, Inc., 1979.
3. *Municipal Wastewater Disinfection*. EPA 625/1-86/021, USEPA, Cincinnati, OH, October, 1986.
4. *Progress in Wastewater Disinfection Technology*. USEPA, 600/9-79-018, June, 1979.

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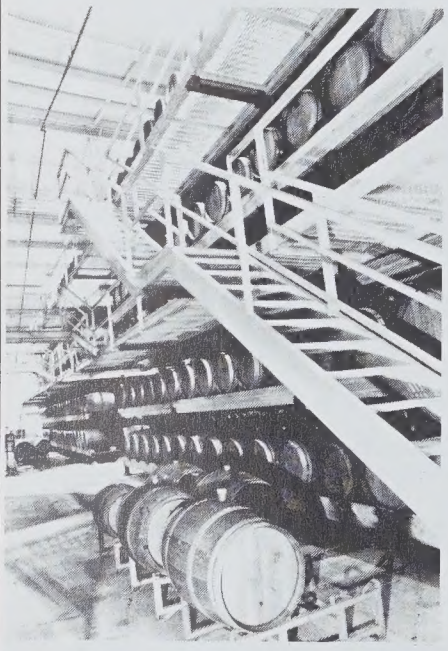

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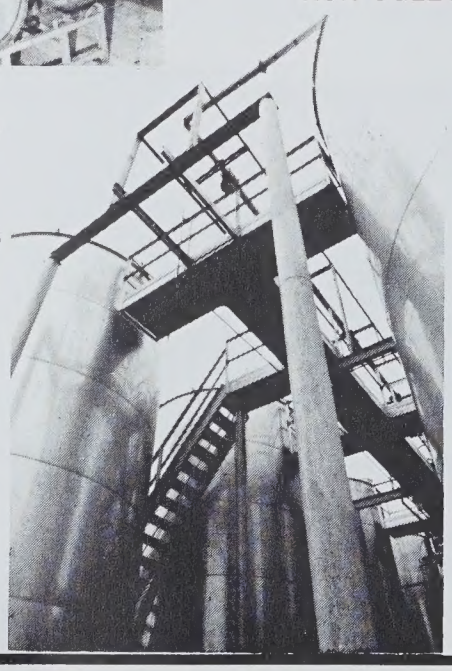

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In the Cellar

Jake Lorenzo

Here it is 1988, an election year.

I ran for office once. I won too. I was elected class treasurer of my elementary school in the sixth grade. My campaign speech won it for me, "I admit I don't have the best mathematical mind. I don't know algebra and when I do my math I need a pencil with a good eraser. But since the class treasury now has a total of $2.47, I feel well qualified for the job."

It was a dramatic speech, what with the background singers and all, but you had to be there to appreciate its full impact. In any case, it brought them out to the polls. That, and the fact that I ran unopposed got me elected.

When I moved to Sonoma, CA, one of the first things I learned was: never, ever, under any circumstances, no matter how drunk, should you get into a political discussion with a local.

It is one of the few rules by which I abide, and over the last 20 years it has saved me considerable anguish. So please understand that this is not about politics, and don't be sending out the presshounds to dig up the skeletons in MY closet. Jake Lorenzo is not running for anything.

However, it has occurred to me that America has in the past been more confident. I think back to the pioneers moving across the spectacular, fearsome west unbowed by hardship. I think of the Americans fighting in two world wars convinced of their prowess. I remember the peace corps sending our young around the world full of naivete and good will.

For more than a century Americans have been friendly, open, brash and cocky. We thought we were the best and we went into the world with open hearted confidence.

It didn't sit too well with the rest of the world. Europeans couldn't handle our casual openness. In a land of class differences, where even today bosses and employees don't socialize, they didn't know what to do with Americans

Reprint Courtesy of Glen Ellen Winery.

"Trust me Joey, I think we should check the filter."

Illustration by Jeff Leedy, Sausalito, CA 415/331-1354

who worked and played together.

In the east, with their structured and codified society, there was no understanding, let alone appreciation, of our wit and friendly intentioned sarcasm. The third world jealously envied our wealth. The entire planet had no idea what American women were up to, and thought American men were wimps for allowing them to do it.

Somehow, all this disapproval, along with Watergate, the Vietnam debacle and a decade of assassinations made us lose our confidence, our cockiness and our pride. We have given up on things American and look elsewhere for products as well as for inspiration.

I have just returned from France. My first trip to Europe in 15 years. The French are a fiercely proud people. They believe in things French and they support those things with their money. Their wines are fantastic, their vineyards stunningly beautiful, and their food sublime.

I stood in Alsace in freezing temperatures and watched them harvest. I wandered through ancient vineyards eating the world's most famous grapes. I observed and joined the people in their joyous daily consumption of food and wine.

I learned that there is no France without fine food and wine. Nor could there be 'French wine' without the long regional tradition and history of France. In short, French wines themselves are exact expressions of the French way of life. They differ region by region, because the people differ region by region.

There is a secret to be learned here. If we presume to make great wines in California and elsewhere in America, then those wines must reflect a uniquely American spirit. If wine is ever to be a part of our daily lives, then those wines must reflect and represent the way we live.

It seems simple enough, but somehow we've missed it. I mean is America a bunch of snobs in black tie sniffing at glasses, or is it a bunch of friends slamming down some Zinfandel with big plates of spaghetti?

We do not, like the French, have a long, proud history of viticulture and winemaking. Nor are we, like the French, bound by ancient and archaic rules and customs.

Those of us working in the wine industry have a unique opportunity. We have a chance to shape and mold what will surely become a glorious and successful history of our own. Let's not copy someone else's version. Let us instead be open to new ideas, brash about exploring unchartered arenas, and confident in our abilities to succeed.

It's what America once was. It's what we can be again. I'll tell you this, I'd give up Hornitos to see it happen in my lifetime.

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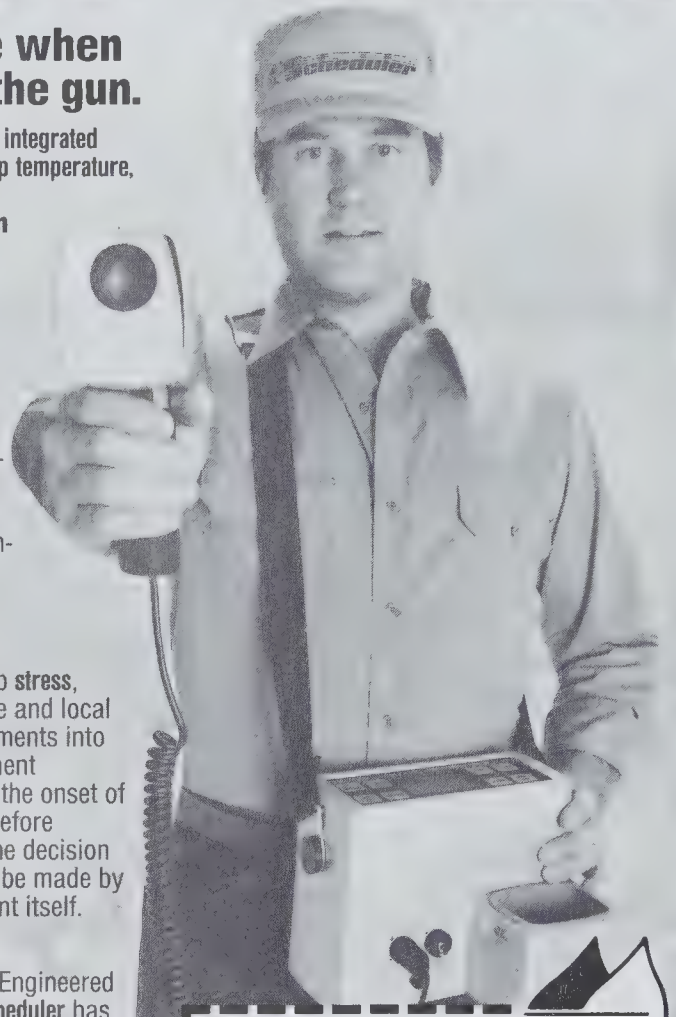

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PROCEEDINGS

The American Society of Enology and Viticulture, Eastern Section has proceedings available from a 1987 regional meeting. Description and cost are below:

Issues in Regional Cabernet Sauvignon Production

The 156 pages, edited by Bruce Zoecklein and Tony Wolf, includes a complete analysis of 40 Cabernet Sauvignons as well as discussions on pH imbalance, phenol extraction and cap management techniques, fining of Cabernets, production strategies from seven Cabernet producers, viticultural considerations of growing Cabernet and a growers panel discussion. This is an important elaboration of the merits and deficiencies of growing and producing Cabernet Sauvignon in the eastern United States. This Proceeding contains topics of interest to all red wine producers.

Cost of the Proceedings is $10.00 plus $2.50 postage. Send check payable to the Virginia Wineries Association to Emma Randel, Shenandoah Vineyards, Rt. 2, Box 323, Edinburg, VA 22824.

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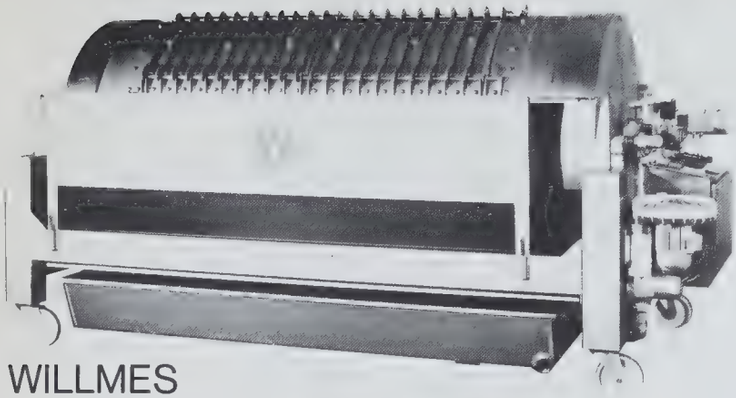

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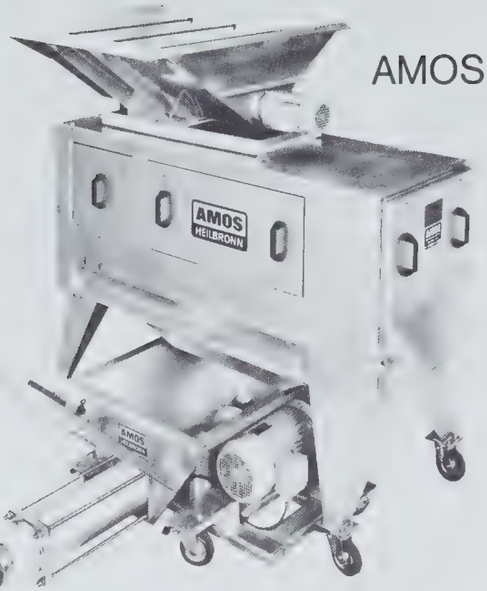

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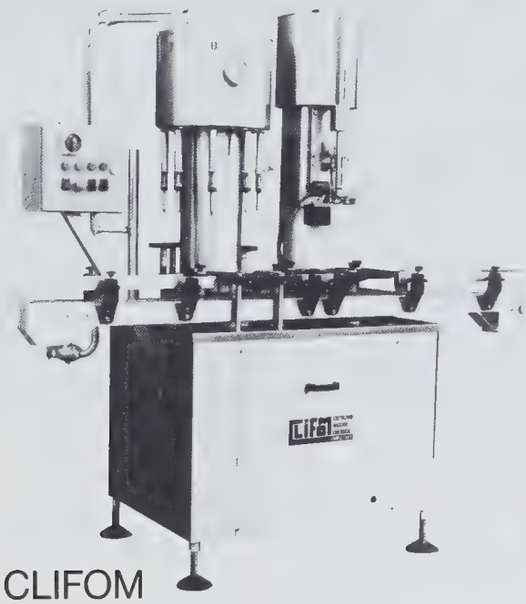

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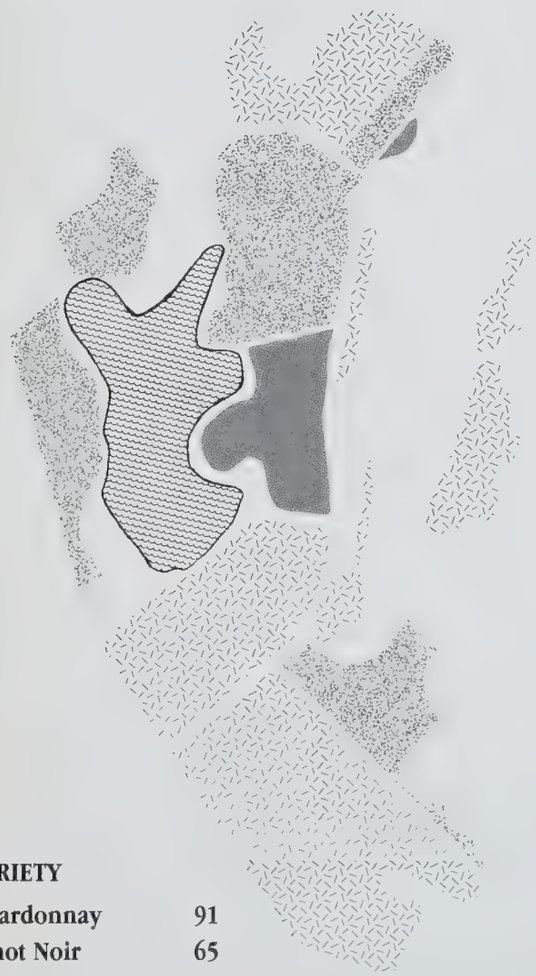
Improving Grape Quality at Winery Lake

Winery Lake acres after conversion



VARIETY	
Chardonnay	91
Pinot Noir	65
Merlot	18
Total Acres	176

Don Neel, Editor

In March, 1986, Sterling Vineyards, Calistoga, CA, purchased the 250-acre Winery Lake Vineyard in the Carneros district. There were 176 acres planted to five different grape cultivars on a variety of soil types and exposures. The Chardonnay and Pinot noir plantings each had more than one clonal selection.

How does a winery/vineyard operation which has managed and developed over 900 acres in Napa Valley approach the task of improving wine grape quality on a 250-acre property planted 20 years ago?

In 1986, Sterling left the vineyard intact and harvested separately as many blocks as possible according to exposure, soil and slope. This allowed the staff to become familiar with the producing vines and the different wines from each location. Sterling's goal was to identify the best possible locations for the Chardonnay, Merlot and Pinot noir grapes to use in its premium table wines.

To improve Winery Lake, 28% of the acreage (50 acres) was T-budded in 1987 to other varieties. The four acres of Gewurztraminer, ten acres of Merlot and 18 acres of Pinot noir vines which were planted in the deepest, richest soils were converted to Chardonnay. Of the 18 acres of hillside Riesling vines, six acres were budded to Chardonnay. The remaining 12 acres were budded to Pinot noir to increase the volume of Pinot noir grapes from hillside vines. The goal was to increase moisture stress in order to produce greater intensity of aroma, flavor and color.

Tucker Catlin, vice-president of vineyard operations, Vince Bonotto, vineyard manager, and Daniel Roberts, vitculturist, began several multi-year experiments in the 1987 growing season to explore how to improve wine grape quality.

Crop-thinning

One three-year experiment with a one-acre hillside Pinot noir planting involves 26% thinning of the crop by cluster removal at berry pause. A 29% reduction in yield was reported by Catlin; the juice analysis has yet to be evaluated.

Another three-year experiment involves 40% thinning, by cluster removal at berry pause, of five acres of heat-treated, large cluster, high-yield, hillside Chardonnay vines.

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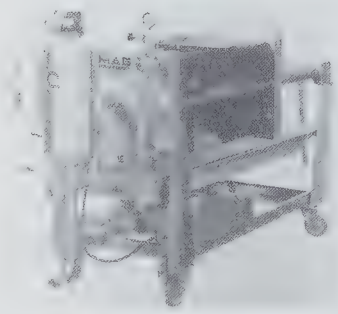

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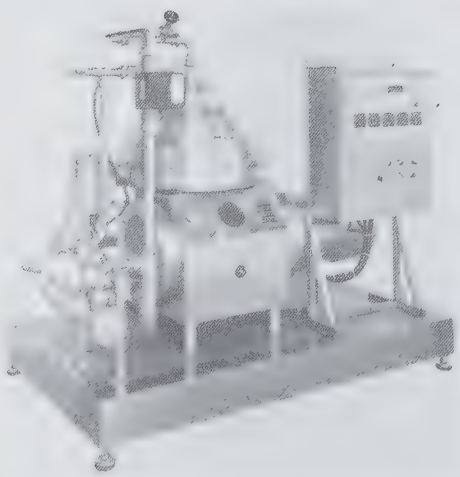

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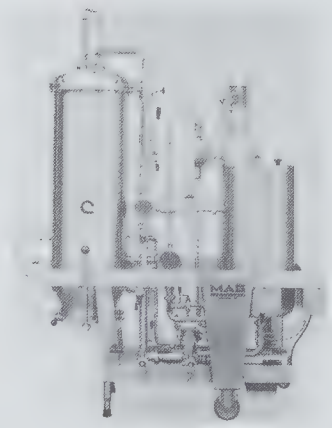

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Stressing Pinot noir Vines

In an attempt to increase color and tannins in Pinot noir, a low phenol variety, a four-acre block of hillside vines was committed to a three-year experiment involving timing and severity of moisture-stress. Sterling hopes that the right combination of these factors will affect phenolics and influence the quantity of grape tannins, as well as the intensity and/or style of aromas and flavors.

This block was divided into eight sub-plots, all of them drip irrigated. Earliest irrigation began on June 6 in four blocks, while four others did not receive any watering until July 2, to induce early stress. Each treatment included irrigation cut-off dates at veraison, 17° Brix, 19° Brix and 22° Brix. The extremes of the experiment were: 73 gallons of water/vine for the season between June 6 and 22° Brix (no stress) and 25 gallons/vine between July 2 and veraison (maximum stress).

No signficant difference in yields was noted, yet variations in berry weight and cluster size were observed. Experimental wine lots were produced from each treatment to evaluate the effects on wine quality.

A new tool to monitor vine stress was used by Roberts. The Scheduler® Plant Stress Monitor, developed by Standard Oil Engineered Materials Company, uses an infrared thermometry-based system to measure the water status of the vines. This tool gives data on vines that gypsum blocks and other soil moisture monitors cannot provide.

Roberts monitored the vines once or twice/week between 11am–4pm in August and September (until harvest) and one more time after harvest. The Scheduler was used to monitor stress before and after watering. Vine stress also was monitored in different soils for future reference to the wine lots made from different soils and irrigation treatments.

He suggests that it is best to measure at the same time each day so that solar radiation is similar. The main advantage of the Scheduler is that it measures the moisture status of the plant instead of the soil (most other types of irrigation monitoring devices–gypsum blocks, tensiometers, and neutron probes–measure the latter). The Scheduler collects data on several factors that influence vine stress, *i.e.*, vine and air temperature, relative humidity and solar radiation.

The infrared information that the Scheduler records allows for monitoring of the following process:

When water is not available to the roots, the leaf stomata close to maintain water pressure within the plant. This cuts off the evaporative cooling which occurs when vines are well-watered. The result is stressed vines that have a warmer leaf surface than well-irrigated vines. Although infrared measurements are not new to agriculture, the Scheduler's built-in computer permits the averaging of a large number of samples to give much more accurate information.

Trellis Experiments

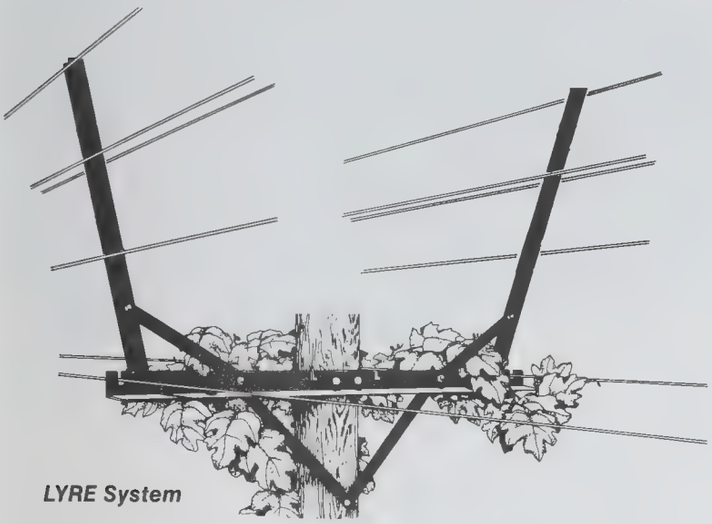
In 1988, a trellis experiment will be implemented to facilitate integrated pest management in a high-vigor Chardonnay block. The goal is to deliver more ultraviolet light to the fruit, which reduces mildew potential and delivers more heat and light to dry up the moisture which can cause rot.

There is a wine quality goal as well. Under heavy shade, Chardonnay fruit tends to have a green color instead of the ideal golden, translucent color of fruit on stressed, hillside vines. A reduction in malic acid and lower pH are expected.

This experiment includes six rows with 100 vines each of Geneva Double Curtain (GDC) and Lyre trellis (both with divided canopies) inter-mixed with the 3-wire, 24-inch 'T' trellis now employed. The trellis frameworks will be installed by A & P Ag Structures before bud break.

Quadrilateral cordons will be positioned on the 48-inch wide GDC trellis, and the shoots will be held down by two shoot positioning wires. The Lyre trellis will have cordons 48-inches apart, with two movable catch wires on each side of the trellis holding the shoots upright.

In 1989, six new scattered hillside acres will be planted to Pinot noir. A 1.5-acre parcel will contain 6–8 clonal selections on the same rootstock. Another block will contain one clonal selection and several rootstocks for comparison.



LYRE System

GDC System

Conclusion

When asked why they are putting so much effort into modifying Winery Lake Vineyard, Catlin responded: "Answering questions about the ideal combination of variety, climate, soil, rootstock, clones and trellises can take ten years to be conclusive.

"In ten years, a lot of the vineyards planted in the 1960's and early 1970's will be ready for replanting. Hopefully the questions we're asking in these vineyards now will give us site-specific answers that we can adopt for the next generation of vineyards at Winery Lake and elsewhere."

A lot of energy is being devoted to improving winegrape quality at Winery Lake Vineyard. We look forward to publishing the acheivements when the results are in.

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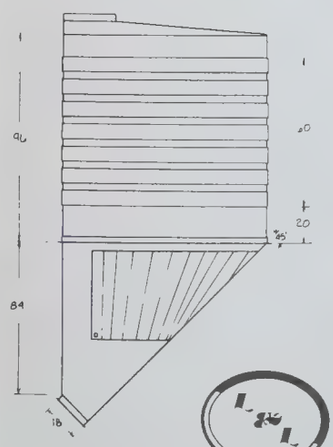

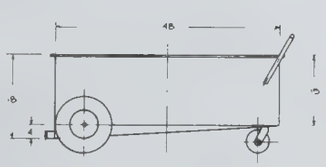

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Long Island's First Wine Decade

Eleanor & Ray Heald

It has been ten years since the release of the first *vinifera* wine from Long Island in New York State. The Long Island grape and wine industry has experienced substantial growth during this period. *PWV* recently visited several wineries and growers to assess the progress in grapegrowing and winemaking.

Based on our observations of grapegrowing conditions, state-of-the-art equipment, and the opportunities presented by a thriving tourist trade, we believe that Long Island has the greatest potential for successfully growing, producing, and marketing *vinifera* wines of any U.S. wine region east of the Mississippi River.

Of the ten Long Island vineyard/wineries that have released wines, nine are located in Suffolk County on eastern Long Island: seven on the North Fork (Bedell Cellars, Hargrave Vineyard, Jamesport Vineyards, Lenz Winery, Palmer Winery, Peconic Bay Vineyards, Pindar Vineyards); and two, Bridgehampton Winery and Chateau La Reve on the South Fork. Banfi Vineyards is located in Nassau County, 50 miles west of Long Island's North Fork and 20 miles east of New York City. These wineries have an annual production ranging from 4,000 cases (Bedell Cellars) to 40,000 cases (Pindar).

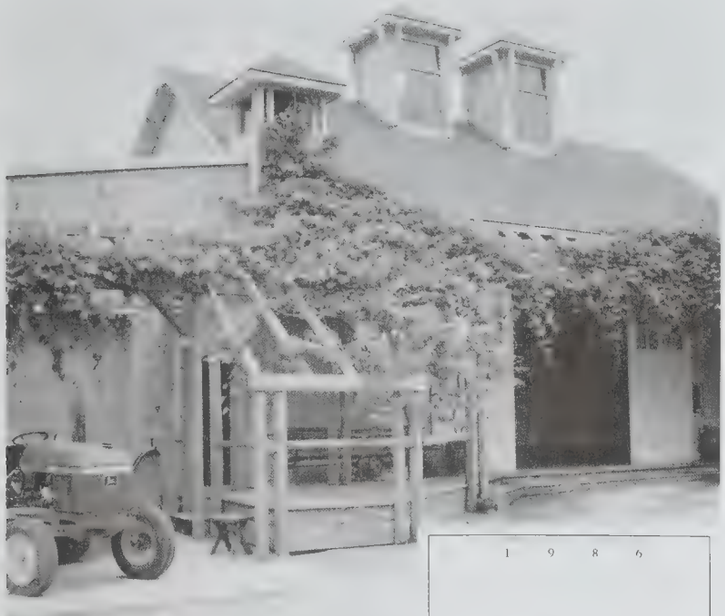
When winery owners and growers are asked what convinced them they could grow *vinifera* grapes on Long Island, each invariably cites the pioneering efforts of Alex and Louisa Hargrave of Hargrave Vineyard in Cutchogue. In 1973, after investigating California and the Finger Lakes District of New York, the Hargraves, impressed by Long Island's potential, settled on the North Fork of Long Island and planted *vinifera* grapes to produce wine.

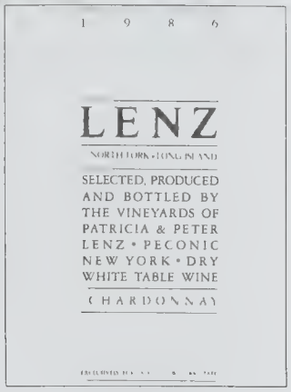
Weather and Climate

"We decided on Long Island because of several factors," Hargrave explained. "The 220-day average annual growing season is 45 days longer than the Finger Lakes District due to the tempering influence of Long Island Sound to the north and Peconic Bay on the south.

"Long Island has the advantage of a long, cool, growing season. We do not get excessive heat in summer or cold in winter. Occasionally, the temperature reaches 90°F, but humidity is also high and photosynthesis continues. This means the fruit reaches biological ripeness and leaves remain on the vines after harvest, allowing the vine to replenish carbohydrates and prepare for the next growing season before the first killing frost.

"We rarely see winter temperatures below 10°F. Although most growers on Long Island use a double-trunk system for insurance, winter kill is not a problem except in low-lying areas with poor water and air drainage."




1986
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CHARDONNAY

Above: Lenz Winery.

Below left: Alex and Louisa Hargrave.

Below right: Fred Frank, Banfi Vineyards.

Data from the Metro Weather Service on Long Island's North Fork indicates an average growing season of 200 days, longest in New York State. The frost-free season averages 223 days between the last killing frost, which rarely occurs later than April 6, and the first, no earlier than November 15. The coastal climate of Long Island has seasonal mean temperatures of 70°F in summer, 50°F in fall, 32°F in winter, and 42°F in spring.

Temperature extremes from 100°F to -5°F are modified by Long Island Sound on the north, the Atlantic Ocean on the south, and Peconic Bay, which splits the north and south forks of eastern Long Island. Average annual wind speed is over 9 mph; 30% of the time it is greater than 12 mph.

"With proper canopy management, the persistent airflow dries the vines after rain and minimizes downy mildew infection," states Ray Blum, owner of Peconic Bay Vineyards. The island rarely experiences severe weather; over the last 250 years only 30 hurricanes have caused damage.

Long Island has an average summer relative humidity of 78%; in winter, 70%. Annual precipitation averages 48 inches, with a range of 34 to 60 inches. The South Fork is cooler, has higher winds, a later spring, and a shorter growing season by 15–20 days than the North Fork, due to its greater proximity to the Atlantic Ocean.

Vineyard Development

Dave Mudd has lived on Long Island since 1952 and worked as an Eastern Airlines pilot. Upon retirement in 1974, he wanted to experiment with growing grapes. Alex Hargrave gave him 600 vines to plant a one-acre vineyard.

"Cornell University Extension had no concrete information to offer relative to *vinifera* grapegrowing," Mudd recalled. "But on my frequent visits to California, I made connections at UC Davis. Cornell has had a research facility on Long Island for many years, but only recently began grape research.

"As more wineries and vineyards were established, many with absentee owners, I saw a need for a Napa Valley-type management company. In 1980, I started a consultation, installation, and management firm (Mudd's Vineyard Ltd.). Since then, I have installed 50% of the Long Island vineyards. There are 1,600 acres now planted on Long Island, with 1,000 in production in 1987."

Start-Up Costs

Excluding land costs, Mudd estimates a current, three-year installation cost of $9,639.00/acre. Mudd explains, "If you can find vineyard land where the development rights have been sold (50% of land cost) you can save a lot of money on start-up costs." John Simicich of Mattituck Vineyards confirms this, "You can buy farm land where the development rights have been sold for $7,000–$8,000/acre."

In 1985, the estimated three-year capital investment was $17,717/acre for *vinifera* grapes based on current land costs of $7,000/acre. A typical investment for a 36-acre vineyard was estimated at $638,000.[1]

"In 1979, we paid $4,000/acre for our vineyard land," explains Kip Bedell, Bedell Cellars. "Today, the same land would cost $15,000–$20,000/acre." Such costs mean that underwriting wine industry investment on Long Island requires venture capital.[2] Banks consider such investments too risky to handle, unless they have a pre-existing business relationship with the applicant.

Grape Market

A 1986 study on the future of agriculture on Long Island's North Fork indicated that winery capacity would be insufficient for planted grape acreage by 1987.[2] The study suggested that since the market for *vinifera* grapes on the East Coast is near saturation, excess tonnage may become a problem for the industry.

The 1987 harvest produced no substantial excess in grapes because large purchases were made by wineries in Connecticut and the Finger Lakes, NY district. Widmer's Wine Cellars (NY) began limited production of *vinifera* wines from the best grapes they could obtain throughout the state, including Long Island. Brotherhood Winery (NY) also bought *vinifera* grapes in 1987, including Chardonnay from Long Island, as part of an overall modernization program. Glenora Wine Cellars (NY) purchased 150 tons of Long Island grapes.

"Any problem with excess grapes is for whites, not reds," reports Mudd. "If anyone wants to purchase red wine grapes this is the law of the land here: for every ton of red you must buy two tons of white." Actual 1987 prices ranged from $900–$1,000 for Riesling; $1,000–$1,250 for Chardonnay; and $1,200–$1,300 for red Bordeaux varieties.

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Ron Goerler, owner Jamesport Vineyards

Potatoes to Grapes

In general, soils on Long Island's north and south forks are well-drained sandy to pebbly loam, with heavy topsoil in low spots. All vineyards have a mixture of soil types.

"Flat or gently sloping vineyard land is most desirable on Long Island," advises Blum, "because low spots and hollows have poor air drainage; they tend to trap cold air resulting in winter damage and crown gall."

"Potatoes grew here and so will grapes," says Hargrave. "Potatoes need a lower soil pH than grapes, but soil pH does not affect wine pH significantly." Liming is a key component of vineyard management on Long Island because it prevents magnesium deficiencies and manganese and aluminum toxicity. Potassium may have to be added to maintain a balance between calcium, magnesium, and potassium in the soil.

Grape Varieties

"Because the industry is so young," comments Blum, "no growers put all their eggs in one basket; most are growing several varieties."

Planted grape acreage in 1986 by variety for the North Fork was as follows: 40.7% Chardonnay, 17% Cabernet Sauvignon, 9.6% Merlot, 8.5% Riesling, 7.6% Pinot noir, 5.5% Seyval, 3% table grapes, 2.6% Gewurztraminer, 1.6% Cabernet Franc, and 3.9% other.[2] This distribution mirrors the planted acreage for the whole of Long Island.

Based on interviews and tastings by *PWV* at all wineries, Long Island seems best suited to Chardonnay, Gewurztraminer, and Merlot for still wine. The small acreage of Pinot noir planted is intended mostly for sparkling wine. Both Lenz Winery and Pindar Vineyards released their first sparkling wines in 1987.

Of the red *vinifera* varieties, Merlot has an advantage over Cabernet Sauvignon on the North Fork because it ripens two weeks earlier. But on well-drained sites, Cabernet Sauvignon can out-perform Merlot in wet years because of its low susceptibility to botrytis infection. "Ripening Cabernet every year on the South Fork is out of the question," according to Richard Olsen-Harbich, Bridgehampton Winery general manager/winemaker.

"We now have sufficient bearing acres of Malbec, Petit Verdot, and Cabernet Franc to blend with Cabernet Sauvignon and Merlot for a Bordeaux-style blend," reports Bill Skolnik, Pindar Vineyards general manager.

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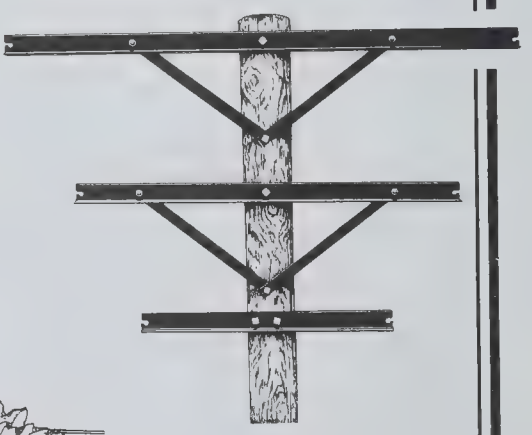

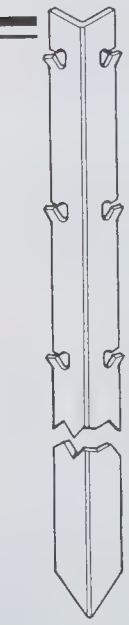

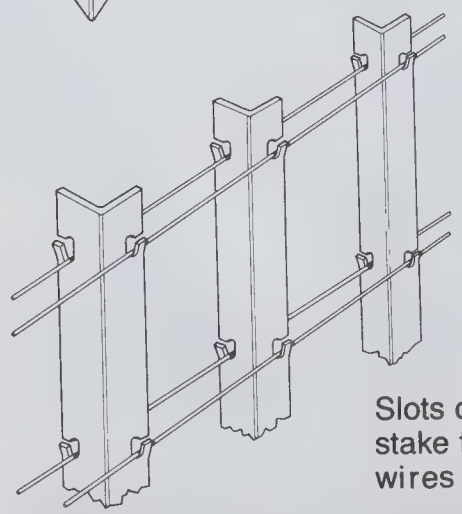

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Vine Sources

Most of the vines planted on Long Island were purchased from either Hermann J. Wiemer Vineyard, Inc., Dundee, NY or Herman Amberg, Clifton Springs, NY. Some were purchased from Sonoma Grapevines, Inc., Santa Rosa, CA.

Almost without exception, grafted vines were planted on rootstocks 3309, SO4, and 5BB. Although the jury is still out on rootstocks, several growers indicate they prefer 3309 for controlling vigor. Experiments consistently indicate that 5BB produces the largest vines of the three rootstocks and 3309 the smallest vines.

Vineyard Spacing

Most vineyards are spaced 8x9 feet. Pindar and Bedell have closed their spacing to 7x9 to control vigor. Hargrave spaced vines 7x9 initially, but changed to 8x10 with later plantings to encourage vigor, a fuller canopy, and lower pH at harvest.

John and Kathy Simicich, owners of Mattituck Vineyards, planted Chardonnay and Cabernet Sauvignon 6x9 and will plant Merlot, Pinot noir, and Riesling 4x9 on the advice of Hermann Wiemer. According to Simicich, Wiemer expects this will reduce vine vigor, decrease berry size, and increase fruit intensity.

Mudd contends 8x9 spacing is ideal on the North Fork. "I experimented at Palmer Vineyard with 6x9," says Mudd, "but noticed too much vine competition as a result. We have to control vigor here, but close spacing doesn't work."

Olsen-Harbich started with 8x9 spacing on his South Fork vineyard, but later plantings are 6x9 to help fill-in the trellis.

Fred Frank, managing director of Banfi Vineyards, is using a 4x7.5 spacing for a total of 1,600–1,700 vines/acre. He did this based on the experience of his late grandfather, Konstantin Frank, at Vinifera Wine Cellars, Hammondsport, NY, and also on Banfi Vintners' vineyard practices in Tuscany, Italy.

"Based on what we learned in Europe," says Peter Lenz of Lenz Vineyards, "we decided on a close-spacing pattern for our grapes. Gewurztraminer and Pinot noir are spaced 4x9; all other varieties are 6x9. In 1979, 9-foot rows were necessary for available equipment. Today, we can plant using a narrower row spacing."

Without exception, vineyard rows are north-south directed. The sea breeze comes out of the southwest and together with the prevailing wind blows the canopy to the east. Hargrave considers this an advantage since it opens the west side of the canopy and reduces the need for hedging.

Palmer Vineyards tasting room

Canopy Management

"In 1973, experts at the College of Agriculture and Life Sciences of Cornell University, Geneva Station had very little or no experience with growing *vinifera* grape varieties in New York," says Hargrave. "They thought I was crazy to plant *vinifera* and advised me to plant French Hybrid varieties instead.

"They suggested training the vines using a double-trunk, bilateral cordon fixed at a 6-foot wire, the standard training method used for hybrids. From 1975–1980, I conducted an experiment using both high and low training systems on all *vinifera* varieties. There was no difference in grape maturity

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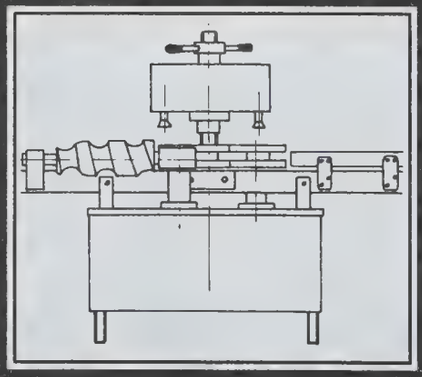

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provided nitrogen applications were made as soil samples indicated need."

Peter Gristina, vineyard manager of Cutchogue Vineyards, uses a double trunk and bilateral cordon for all varieties. He uses a 3-wire trellis with wires at 35, 45, and 72 inches above ground. Cordons are tied to the low wire and two pairs of catch wires are used to contain upward canopy growth.

Gristina cites advantages of a low-wire training system: 1) it matches the natural upward growth of *vinifera*, 2) it minimizes wind damage, 3) vines are easily maintained, 4) it requires a shorter period of time to give a first crop, 5) it provides better air drainage, 6) there is better spray penetration, and 7) it has greater potential for mechanical harvesting.

Dave Thompson, Bedell Cellars' general manager, supports Gristina's view and adds that a low training system minimizes shoot damage from strong prevailing winds and also is less labor intensive than a high cordon system.

Larry Fuller-Perrine, Cornell University grape researcher at the Long Island Horticultural Research Laboratory, agrees with Gristina and Thompson. "Forty mph winds in June, when shoots are still tender, are not uncommon. In addition, the use of vertical training systems with catch wires makes operations such as leaf removal and cluster thinning much easier."

Simicich uses a double trunk, mid-wire, bilateral cordon on a 3-wire trellis with two pairs of catch wires. Trellis wires are set at 24, 42, and 72 inches.

Olsen-Harbich uses a Pendelbogen system with two sets of catch wires for all varieties at Bridgehampton. Trellis wires are set at 32, 46 and 72 inches with the lower catch wires at 52 inches and the upper catch wires at 72 inches.

A double-trunk, Pendelbogen cane-pruning system is used at Banfi, because the trunks do not grow as thick and the vines are not as subject to winter injury and cracking.

Lenz uses a single trunk, maintaining that winter injury is not a problem on the North Fork. He utilizes a Pendelbogen system for Gewurztraminer and a low-wire bilateral cordon, with catch wires, for all other varieties.

Mudd, who planted Palmer Vineyards in 1983, insists that the high training system works best if the grapes are mechanically harvested. The fruiting wire is initially at 4–4.5 feet; after two years, or when growth permits, the fruiting cane is lifted to the 6-foot wire. Hedging is necessary 2 or 3 times during the growing season, beginning in July when cane growth slows.

Since excess vigor is a problem on Long Island, standard vineyard practice includes either hedging or leaf removal to control the canopy. "Hedging can be a problem if not properly performed," states Hargrave, "because it may not leave enough leaves to ripen the grapes and replenish carbohydrates at the end of the growing season."

Gristina hedges once in mid-August after the cane growth slows. Olsen-Harbich hedged 50% of his vines in 1986 and saw an overall improvement in fruit ripeness.

While there are multiple schools of thought in the area of canopy management, it is apparent that it is not the method, but the commitment, that makes the difference.

Irrigation

"With a 48-inch annual rainfall," says Skolnik, "dry farming is not a problem." Simicich reports, "New planting should be done by the first week in May, because, without fail, the rest of the month is rainy. We only dry farm and have never watered even in the years we've planted new vines." Mudd installed a drip irrigation system at Palmer Vineyards as insurance for new vineyards.

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Harvest

Naturally flat vineyards and the absence of low-cost labor make mechanical harvesting desirable. "We harvest both mechanically and by hand," says Ron Goerler, president of Jamesport Vineyards. Eventually we will have to mechanically harvest all grapes because pickers are extremely difficult to find."

Several vineyards have hand-harvested a third-leaf crop, but they fully intend to rely on mechanical harvesting once the vines are mature. "Hand picking does not get the fruit off the vines fast enough," according to Blum. "If you're selling fruit, it has to look good when it's delivered to the winery."

The critical harvest criteria is pH. "Our pH problem is related to crop level," says Olsen-Harbich. "You can't go over three tons/acre with any variety. As harvest approaches, pH tends to increase rapidly. When this happens, the fruit is harvested with the hope that Brix and titratable acidity fall into a desirable window. Chardonnay is usually harvested the last week in September at 3.2–3.4 pH, 21–22° Brix, and 0.9–1.0 g/100mL TA."

"Even on the North Fork," says Thompson, "there are some years when Cabernet Sauvignon won't ripen because we generally get rain late in the growing season. On the other hand, Merlot is a natural on the North Fork. It ripens in early October as does our Chardonnay. It takes at least two more weeks for Cabernet Sauvignon to ripen."

Disease

All growers admit that black rot is the major disease problem. Powdery mildew can be a problem too, especially in combination with poor canopy management. Occasionally, botrytis is troublesome, especially in tight-clustered or thin-skinned varieties like Chardonnay and Riesling.

"If the Cornell Extension Spray Guide is used conscientiously, we can keep all rot, mildew, and botrytis under control," says Gristina.

Insects do not present a serious problem, but occassionally, potato leaf hopper, grapeberry moth, and mites cause some damage. Bird damage occurs in most vineyards and can be especially severe in those vineyards bordering dense woods. Both Mattituck and Bridgehampton vineyards have attempted to solve the problem by netting two perimeter vine rows. In 1987, crop loss due to birds ranged from 2–20% depending on vineyard location.

Wine Marketing

Long Island has a population of 2,650,000 with the nation's highest per household median income (after taxes) of $38,289; 33% have a spendable income greater than $50,000. Most wineries look first to Long Island to market their products, then to New York City and surroundings.

There are over 13,000,000 people of legal drinking age within a two-hour drive of the North Fork. An auto ferry connecting New London, CT and the tip of the North Fork puts Boston within a two-hour drive of this grapegrowing district. The potential for wine-related tourism is enormous, but as yet untapped.

"It was tough for California to break into the New York City wine market," comments Skolnik. "It is even tougher for Long Island wines. New York City is a sophisticated, but skeptical market. Our sparkling wine program has helped to get our

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Bridgehampton Winery

John Ross, owner Ross' North Fork Restaurant

brand into New York restaurants. We've decided to saturate Nassau and Suffolk counties on Long Island—right now, they are our most important market."

"New York City residents vacation on Long Island," says Hargrave. "They've taken Long Island wines back to the best restaurants and clubs. This has helped to spread the word about our wines."

Mudd is developing a Wine Service Coop for Long Island wineries. Currently, each winery makes its own deliveries. Due to traffic congestion, it takes a driver all day to make a round trip to New York City to make deliveries. Mudd's concept will piggyback Long Island wine deliveries with California wines and European imports.

Banfi Vintners has a sales force and distribution network in place nationally and internationally. This will bring attention to their Long Island Chardonnay and will enhance recognition of other Long Island producers.

Wine brands are best built in restaurants, therefore penetration of Long Island restaurants is essential for growth. John Ross, chef/owner of Ross' North Fork Restaurant on Long Island, has been a New York wine advocate from the beginning.

"I want a regional image," says Ross. "I phased out upstate NY wines when more Long Island wineries released wines. Now, my wine list includes only Long Island and European wines. There are no domestic wines to compete with the local product." Ross specializes in roast Long Island duck and considers Long Island Merlot the best accompaniment.

The New York Wine & Grape Foundation's 'Class by the Glass' and 'Uncork New York' programs focus attention on New York restaurants featuring premium New York wines. In 1987, the Foundation put $40,000 into Long Island wine promotion and provided a $23,000 grant for winegrape research.

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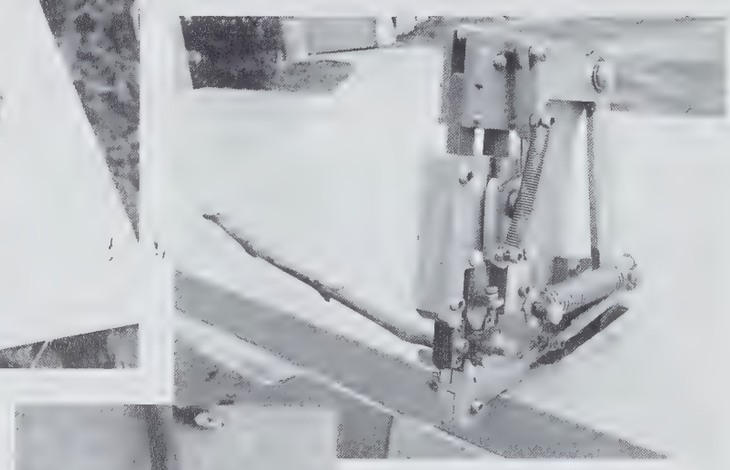

Pfropf-Star machine used to produce bench-grafts of scion and rootstock. (Above) Scion wood notched to interlock with rootstock. (L)

Jim Pratt
Sonoma Grapevines, Inc.

With the potential re-emergence of phylloxera and recent restrictions on soil chemicals, grapegrowers must employ certified rootstock. Thus, one of the most important decisions to be made in establishing a vineyard is whether to plant bench-grafted vines or rootstock for later field-budding.

Discussions with vineyard managers indicate that, although field-budded rootstocks still are widely planted, there is a definite trend toward planting of bench grafts. Cost, convenience and risk are the three main factors growers consider when choosing between these two options.

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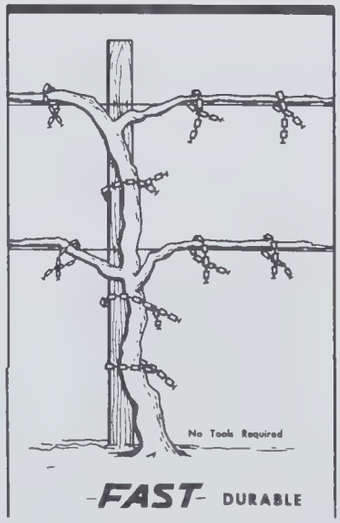

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Cost Factor

According to a University of California Cooperative Extension Service pamphlet entitled "Sample Costs to Establish and Produce Grapes in the North Coast Counties" (Kasimatis et al, 1982), the cost of field-budding rootstock is $1.99 per vine. This includes the cost of rootstock and budwood, the uncovering and pruning of the rootstock, cut rubbers and tops. By comparison, a dormant bench-grafted vine costs approximately $2.50, 20% more than one which is field-budded.

Duff Bevill of Duff Bevill Vineyard Management in Healdsburg, CA, says, "There is a big difference in percentage of take between field-budded and bench-grafted vines. We consistently get a 98% take with bench grafts. Although we can get the same take with field-budded vines, the potential for a lower take is greater. If you have less than desirable soil or climatic conditions, your take could drop to 80% or less. The cost per vine then goes up every time you have to go back in your field to re-bud."

Dr. Cris Strotz and his family own a vineyard in Santa Rosa, CA, where 1000 bench grafts each of Cabernet Sauvignon and Cabernet Franc on AxR-1 rootstock were planted. 4000 cuttings of Merlot budwood were also field-budded onto AxR-1 rootings. Strotz reports a 99.5% success rate for the bench grafts compared to a 90% take for the field-budded rootstock.

"Field budding is cheaper initially," states Dr. Strotz, "but you are in the field so often checking the union and the bud that the cost difference becomes insignificant or it favors bench grafts. We were in the field so often—4 or 5 times—that we made knee pads."

Convenience Factor

Convenience is another factor growers must consider. Dormant bench grafts and rootstocks both are planted in early spring, and both require the usual maintenance and care required to establish a vine. Field budding adds a second step, because a crew must come in the fall or following spring to bud the rootstock.

"We've had so much good luck with bench grafts," says Paul Vander Schalie, Vineyard Supervisor for Charles Krug Winery in Napa Valley, "that when we're doing our pre-plant budget, we plan on bench grafts. This way, we know we'll get the planting done in one step and get it done right."

One reason Joe Vogensen of Vogensen Vineyard Management, Healdsburg, CA, prefers bench grafts is that he finds it difficult to get reliable budders when he needs them. "Most of my fields are between 4 and 5 acres," Vogensen says. "If budders have a choice between a 5-acre plot and a 20-acre plot, naturally they will go where there's more work. They might take my small planting if they have nothing else to do. If the budding is done later than it should be done, the take goes way down."

Bevill concurs, "You have to be able to get reliable, skilled budders as soon as it's time to bud. I've been dealing with the same crew for years. I line them up way in advance, and they know they will have plenty of work with me. This way, I know the budding will be done at the proper time, which is crucial."

At Joseph Phelps Vineyards in St. Helena, CA, all of the vineyards are field-budded. "We feel that we achieve a more uniform vineyard than we would using bench grafts," says Ed Weber, viticulturist at Phelps. "Field-budded vines will be more vigorous in the second year, making it easier to get them up the stake and trained to the desired form.

"An added benefit of field budding is that you can be certain as to the rootstock your vines are growing on. In a bench-grafted vineyard, the only time you can evaluate the rootstock is when a sucker grows. As we start using a wider array of rootstocks, nursery mix-ups are likely to become more common. In a field-budded vineyard you have several months to examine the rootstock itself.

"The real key to successful field budding is the experience of the budders. If you can get the best men in your area there should be no problems with take. If you are a small grower who may not have access to these men, you are probably better off using bench grafts, despite their disadvantages," concluded Weber.

Risk Factor

In evaluating bench grafts versus field budding, risk factors must be considered. Charlie Williams of Napa Valley's Robert Mondavi Vineyards says, "Fall rains have produced disasters with field budding." Vander Schalie adds, "With bench grafts there is less risk, less headache, and we get a more uniform stand. Field budding is like shooting craps."

Alex Vyborny of Vyborny Vineyard Management, Rutherford, CA, believes that, despite the trend toward bench grafts, field

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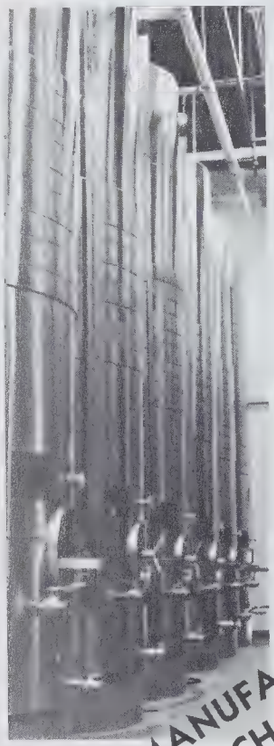
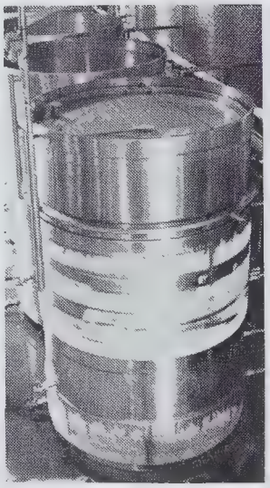
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budding still is the best way to go. He says, "By using vigorous rootstock, fresh budwood and our own skilled crew we get a 96–98% take, keeping costs down and winding up with a more uniform vineyard." Rain damage has yet to affect Vyborny's preference for field budding.

Dr. John Baritelle, who owns a Napa Valley vineyard, not only prefers bench-grafted vines, but green, growing vines over two-year-old dormants. "We planted our Cabernet Sauvignon on SO4 rootstock as green vines in May," says Dr. Baritelle. "Over 90% of them reached seven feet above ground in 1987. We will start trellising them in 1988. With green vines, I know I am getting healthy, actively growing, disease-free vines in sterilized soil."

In Texas, different climatic conditions pose other considerations. Bobby Cox, owner of Pheasant Ridge Winery in Lubbock, says, "Spring budding is out of the question. We just don't get the heat you need for proper callousing with spring budding. The bottom line is that we've had more failures than successes. With bench grafts we've had very good luck. We're planning to look at fall budding to see if it will work for us."

Once a decision is made to plant rootstock, extra care must be taken to insure that the vine diameter is sufficient for budding. In California, state standards require the caliper of rooted cuttings from grapevine rootstock to be at least ¼-inch. The usual standard for rootstock cuttings used for bench-grafting is 3/8-inch.

Duff Bevill makes it a top priority to deliver water and fertilizer to the rootstock so that it attains proper size. If it is too small, the budders probably will not bud the vine. Some growers prefer to wait until the spring following planting to assure sufficient size. The cost per vine rises either way—if the budders must return to the field or if the time between planting and budding is extended.

Growers note that field-budded vines often display more vigor than bench grafts during early stages of vine development. Charlie Williams believes that shock to the bench graft root system inhibits overall vigor during the first year after planting (with field-budded vines, the rootstock's root system is well established by the time of budding). Williams points out, however, that, by the third year, bench grafts and field-budded vines are equal in vigor and production.

Paul Vander Schalie agrees that field-budded vines show greater vigor during the vegetative and training stages of growth. However, he deems the more uniform stand and even bud development provided by bench grafts to be of greater importance.

One point all growers interviewed agree on is that the plant material used must be certified virus-free by a reputable nursery. Dormant bench-grafted vines and rootstock are available in the winter from these nurseries, and budwood is available from some of them in the spring and fall. Green-growing bench grafts are also available in the spring.

Rich Kunde, president of Sonoma Grapevines, Inc., a large Santa Rosa, CA. nursery, reports 1987 production figures of 1.5 million bench grafts and 225,000 rootstock rootings. "We always strive to give the customer what he wants," says Kunde, "whether it's bench-grafted vines, rooted rootstock, or specific clones of budwood.

"The numbers show that planting bench grafts is more popular, but there will always be growers who prefer to bud. When our customers ask our advice, we recommend bench grafts. When the overall picture is considered, bench grafts are more consistent and economical."

With the possibility of looming drought threats and with the possibility of current chemicals used to control nematodes banned or severely restricted, Central Valley growers are looking at bench graft and budding options with much greater interest, according to Nat DiBuduo of Professional Agricultural Management, Inc., Fresno, CA. He favors planting two-year-old field-grown bench grafts. "I like the higher percentage take with bench grafts," asserts DiBuduo. "With field budding, we have to go back through the vineyard time and again to get a complete stand."

Most vineyard managers agree that bench grafts are more practical and economical for replanting in existing vineyards. "It's harder to isolate a vine here and there to be re-budded," DiBuduo says. "Once it's budded, you may have to go in again and re-bud. A bench graft is ready to go and much more convenient."

When Duff Bevill uses bench grafts as replants in vineyards he manages, the vineyards' owners are happy to see new vines growing right away alongside older vines.

Dr. Jim Wolpert, Extension Viticulturist, does not make specific recommendations between bench grafts and field-budded vines. Wolpert hopes that more research will be conducted to compare them.

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Winery Electrical Power Distribution: Part II

Ken Arthur
Oneto & Arthur Engineering, Inc.

In the May/June 1987 *PWV* we discussed some of the details to consider when locating a main service switchboard in a winery. We discussed locating it where:

- It is as close to the major load area as possible.
- It is accessible for installation of initial and future feeders.
- It can be physically expanded.
- Indoors vs outdoors—generally more expensive to install indoors because it takes up valuable floor space.

In addition to these considerations, there are five more important items that you should give thought to.

Voltage Selection

If you are building a new winery, your initial discussions with the serving utility should include discovering what voltage options are available to you. It will depend somewhat upon the load requirements that you project for the initial installation and for the near future.

In the Pacific Gas & Electric service areas, one of the first tasks, when you have a good estimate of your planned initial load and have made an educated guess at your future growth, is to fill out a PG&E 'Sercare' sheet (see Fig.1).

My experience has shown that completion of the 'Sercare' document takes you from just talking about doing something to being serious about it. This is the document that puts you into PG&E's engineering schedule.

PG&E will probably ask you for some upfront money to cover some of their engineering costs. This is refunded when you carry your project to completion, and they set a meter to measure your load.

PG&E is a public utility and cannot respond to just anyone who says, "Hey, I have an idea!". The "Sercare" document says to them, "I'm serious—put my project into the system."

It is important to know what you are expected to provide to obtain the results you want. As part of the "Sercare" document you will be asked what voltage you are requesting. To make sure you are requesting something you can have, a discussion with the PG&E marketing representative will show you rate schedules your projected load qualifies for. Unless you are, and always will be, a very small operation (less than 200hp), I would not recommend you consider anything but 480 volts, 3-phase. Other levels of voltage you will need can be transformed from 480 volts.

Operation of your facilities at 480 volts will reduce your costs for electrical equipment. For example at 480 volts, 3-phase, a 10hp motor requires a Size 1 starter. At 208 or 240 volts, 3-phase, you would need a Size 2 starter, which costs more than a Size 1. At 50hp, the difference in cost between 480 and 208 or 240 volts is quite significant.

Additional costs do not end with the starter. A 10hp motor at 480 volts, 3-phase, operates at about 14 amps full load. The same motor at 208 volts, 3-phase, operates at about 32 amps full load and at about 28 amps at 240 volts, so the branch circuit wires to operate the motor must also be larger—hence more costly.

Those who say, "Yes, but a horsepower is a horsepower," are right—when measured through a utility meter it comes out the same load. You can prove it by substituting the appropriate numbers in the following equation [volts] [full load amps] [1.732] = KVA for each of the 10hp motor examples above. You will find that they each come out at about 11,600 KVA. It will not cost you any more to operate the motor at a lower voltage, but it will surely cost you more to install it. Voltage selection—don't take it lightly.

62-3177 (8-78)

SERCARE
DATA SHEET

PACIFIC GAS AND ELECTRIC COMPANY

Date _____

_____ (Address)

Telephone _____

_____ (City) _____

Attention District Marketing Supervisor

NOTE: See reverse side for explanation of procedure

Project _____

Location: (Street) _____ (City) _____

Owner: (Name) _____

(Address) _____ (Telephone) _____

Architect, Engineer, or Contractor: (Name) _____

(Address) _____ (Telephone) _____

Enclosures: Three copies plot plan (site grading, elevation drawing, and single line diagram when necessary)

Date Ready for Service: _____ Date Sub Structures Required: _____ Bid Date: _____

ELECTRIC LOAD INFORMATION

	INITIALLY	FUTURE		INITIALLY	FUTURE
Lighting	____ KW	____ KW	10 Air Cond.	____ HP	____ HP
Receptacles	____ KW	____ KW	30 Air Cond.	____ HP	____ HP
Water Heating	____ KW	____ KW	10 Heat Pumps	____ HP	____ HP
Duct Air Htrs.	____ KW	____ KW	30 Heat Pumps	____ HP	____ HP
Unit Air Htrs.	____ KW	____ KW	Aux. Strip Htrs.	____ KW	____ KW
Cooking	____ KW	____ KW	10 Misc. Motors	____ HP	____ HP
X-Ray (input)*	____ KVA	____ KVA	30 Misc. Motors	____ HP	____ HP
Welders (input)*	____ KVA	____ KVA			
			Largest Motor*	____ HP	

MAIN SWITCH SIZE ____ Amps. TOTAL BUILDING SQ. FOOTAGE ____

Fig. 1. PG&E 'Sercare' sheet.

Enclosure Type

Pay close attention to this! Do not let a contractor or others make this decision for you, at least not without understanding what the significance of the enclosure 'type' is. N.E.M.A. (National Electrical Manufacturers Association) has established the definition of NEMA enclosure 'types'. For service switchboards, the choices and corresponding definitions are as follows:

Type 1—General Purpose, Indoor Intended for use indoors, primarily to prevent accidental contact of personnel with the enclosed equipment, in areas where unusual service conditions do not exist. In addition, they provide protection against falling dirt.

Type 1 Gasketed—Semi Dust-tight, Indoor Intended to restrict the entrance of dust and dirt into Type 1 enclosures, but are **not** dust-tight. Obtainable with either polyurethane open-cell or neoprene closed-cell gasketing material.

Type 3R—Rainproof, Outdoor Intended for use outdoors to protect the enclosed equipment against rain. They are **not** dust-proof, snow-proof nor sleet-proof (ice-proof).

Type 12—Industrial Use, Dust-tight and Drip-tight, Indoor Intended for use indoors to protect the enclosed equipment against fibers, flyings, lint, dust and dirt, and light splashing, seepage, dripping, and external condensation of non-corrosive liquids.

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For most protected winery environments I would not recommend anything less than NEMA Type 12. NEMA Type 1 and 1A do not belong in any winery I have seen (although I have seen them there many times). NEMA Type 3R is usually my choice, inside or outside, to protect against the 'hose jockeys' in every winery. (Some facilities have enclosed or isolated rooms for their electrical equipment. Under these conditions only, do I consider the use of NEMA 1, 1A and 2 enclosures.)

A service switchboard should not be intentionally located in an area that is or will be a heavy hose-down area. NEMA Type 3R is not watertight. It is not intended to be able to withstand direct, deliberate hose-down but it will fend off the occasional errant squirt.

NEMA Type 3R requires more space than the other types listed because it essentially is a NEMA Type 1 inside a steel enclosure designed to shed water. Therefore you must allow more space, including the working space required in front of it by the National Electrical Code (see *Working Space* below).

NEMA Type 3R enclosures also require some special attention to the conduit entries so that the Type 3R rating is not compromised. When necessary, it also should include provisions for future additions. I suggest that you take seriously the selection of the enclosure for your main service switchgear—it will be with you for a long time.

Working Space as Required by the NEC®

The new 1987 NEC® (National Electrical Code®) is considerably more restrictive than previous versions. It is well worth any winery planner's time to clearly understand this aspect of the NEC®, even if you do not understand any other aspect of the Code. This is not to say that 'working space' is the most important aspect of the Code. It can, however, be a very, very expensive item to fix if you do it wrong.

Many NEC® items require interpretation and an in-depth understanding of electrical engineering. All you need to check for proper working space is a tape measure and a basic understanding of how to read it. This is one of the most straightforward aspects of the Code and I recommend you read it. (see Fig.2)

Note that working space requirements of Sec. 110-16 also include access and entrance requirements **into** the workspace and headroom and lighting requirements. Imagine a situation in which a special room is set aside for the main service switchboard and, after installation (including underground circuits), the local inspector finds you do not have the required working space in front of the equipment. It's happened—even an electrical contractor missed it.

Spend time planning the areas where you are going to put electrical equipment. Rules in Sec. 110-16 apply to practically all electrical equipment.

Available Short Circuit Current

In "Winery Electrical Distribution Problems" (*PWV* March/April 1987) I briefly discussed the problem of 'available short circuit current'. It is a complex issue, too lengthy to discuss in detail here, but it is a problem you must address when you up-size an existing electrical service or establish a new one. I suggest you get some professional advice regarding the short circuit capability of the equipment you choose for service switchgear.

Grounded VS Ungrounded Electrical Distribution Systems

This is another technically complex issue that should be addressed during the design of your electrical power distribution system. It has to do with NEC® requirements for services rated 1,000 amperes or more, with reliability of service, and most

continued on p. 32

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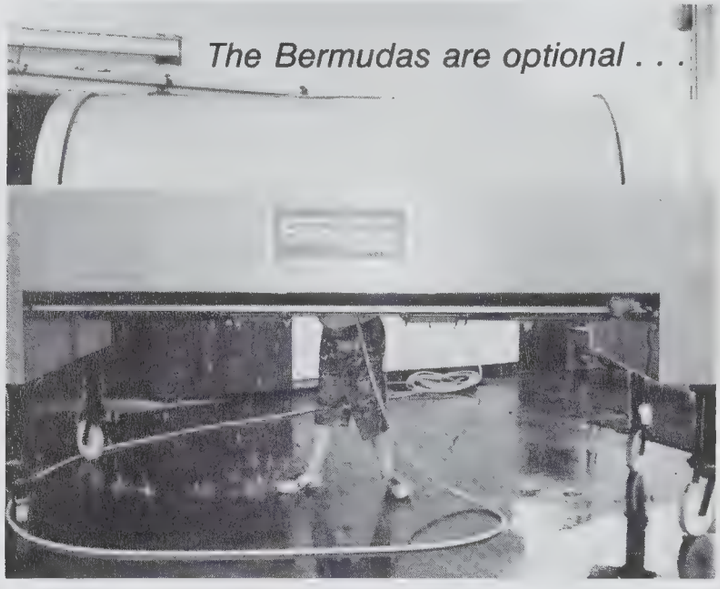

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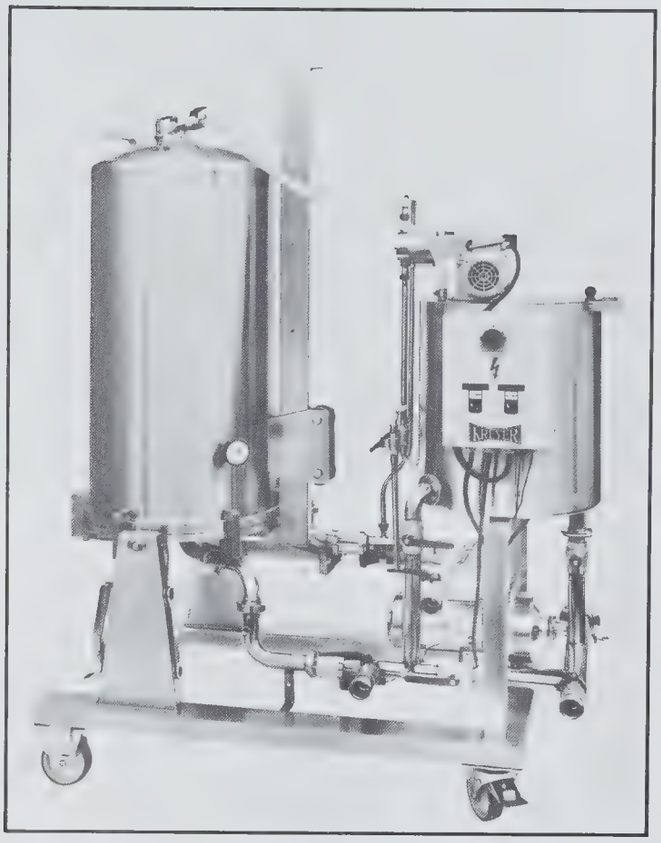

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continued from p. 29

importantly, with system safety.

The ground fault interrupting requirements of the National Electrical Code can be satisfied in several different ways, one option being an ungrounded system. An ungrounded system is one in which the neutral of the utility transformer is left intentionally ungrounded.

This is allowed, under certain conditions, by an exception to Article 230-95 in the NEC®. The option of using an ungrounded distribution system in your winery should be thoroughly understood by management as well as operating personnel. I suggest you discuss your options with a professional who can explain the pros and cons of the several choices available.

Ken Arthur will continue his series to help winery personnel become more aware of the decisions important to an in-house electrical system. His next column will move beyond the service switchboard and discuss the considerations for other components of the electrical power distribution system in a winery.

Figure 2

Article 110-16

110-16. Working Space About Electric Equipment (600 Volts, Nominal, or Less). Sufficient access and working space shall be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment.

(a) Working Clearances. Except as elsewhere required or permitted in this Code, the dimension of the working space in the direction of access to live parts operating at 600 volts, nominal, or less and likely to require examination, adjustment, servicing, or maintenance while energized shall not be less than indicated in Table 110-16(a). Distances shall be measured from the live parts if such are exposed or from the enclosure front or opening if such are enclosed. Concrete, brick, or tile walls shall be considered as grounded.

In addition to the dimensions shown in Table 110-16(a), the work space shall not be less than 30 inches (762 mm) wide in front of the electric equipment. In all cases the work space shall permit at least a 90-degree opening of equipment doors or hinged panels.

Table 110-16(a). Working Clearances

Voltage to Ground, Nominal	Condition:	Min. Clear Distance 1	2	3
0-150		3 ft.	3 ft.	3 ft.
151-600		3	3½	4

Where the "Conditions" are as follows:

1. Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by suitable wood or other insulating materials. Insulated wire or insulated busbars operating at not over 300 volts shall not be considered live parts. **2.** Exposed live parts on one side and grounded parts on the other side.

3. Exposed live parts on both sides of the work space (not guarded as provided in Condition 1) with the operator between.

Exception No. 1: Working space shall not be required in back of assemblies such as dead-front switchboards, or motor control centers where there are no renewable or adjustable parts such as fuses or switches on the back and where all connections are accessible from locations other than the back.

Exception No. 2: By special permission smaller may be permitted (1) where it is judged that the particular arrangement of the installation will provide adequate accessibility, or (2) where all uninsulated parts are at a voltage no greater than 30 volts RMS or 42V dc.

(b) Clear Spaces. Working space required by this section shall not be used for storage. When normally enclosed live parts are exposed for inspection or servicing, the working space, if in a passageway or general open space, shall be suitably guarded.

(c) Access and Entrance to Working Space. At least one entrance of sufficient area shall be provided to give access to the working space about electric equipment.

For switchboards and control panels 1200 amperes or more and over 6 feet (1.83 m) wide, there shall be one entrance not less than 24 inches (610 mm) wide and 6 ½ feet (1.98 m) high at each end.

Exception No. 1: Where the switchboards and panelboards location permits a continuous and unobstructed way of exit travel.

Exception No. 2: Where the work space required by Section 110-16(a) is doubled, only one entrance to the working space is required.

Working space with one entrance provided shall be so located that the edge of the entrance nearest the switchboards and panelboards is the minimum clear distance given in Table 110-16(a) away from such equipment.

(d) Front Working Space. In all cases where there are live parts normally exposed on the front of switchboards or motor control centers, the working space in front of such equipment shall not be less than 3 feet (914 mm).

(e) Illumination. Illumination shall be provided for all working spaces about service equipment, switchboards, panelboards, or motor control centers installed indoors.

Exception: Service equipment or panelboards, in dwelling units, that do not exceed 200 amperes.

(f) Headroom. The minimum headroom of working spaces about service equipment, switchboards, panelboards, or motor control centers shall be 6 ¼ feet (1.91 mm).

Exception: Service equipment or panelboards, in dwelling units, that do not exceed 200 amperes.

(FPN): For higher voltages, see Article 710.

(FPN): As used in this section, a motor control center is an assembly of one or more enclosed sections having a common power bus and principally containing motor control units.

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PART III

Strategic Insights

for Successful Premium Wine Producers

John E. Van Kirk, Ph.D., & John Schaller, M.B.A.
Xavier University, Cincinnati, OH

In Parts I and II, we stressed the importance of gaining a complete understanding of the internal and external environments. Further, we have stressed the importance of a clearly-defined mission statement which provides concentrated direction to overall efforts. Objectives are then set that commit the PWP (premium wine producer) to specific measurable goals.

After selecting optimal alternatives to reach stated objectives, the PWP is ready to write a strategic marketing plan, including designating segments. He then turns to the task of setting functional marketing objectives for the product, including distribution, promotion, and price, and designs appropriate strategies to reach these objectives. It is these last areas to which we now turn our attention.

Product Strategy

Product strategy involves the total product concept; *i.e.*, going beyond the wine in the bottle. A few areas to consider:

Breadth of Product Line:

How broad should the line be? Many PWPs see a broad line as providing the fullest utilization of their capital investment. But the broader the line, the more complex the product strategy becomes and the larger the inventory levels.

Product Types:

Established products: 80% of all products are established (Cabernet Sauvignon, Chardonnay, etc.). They are the bread and butter of the wine industry. Attention must be given to keeping established products competitive in the target markets.

New products: White Zinfandels are the hottest thing to hit the table wine market in 10 years. When products like this enter the market, early decisions are needed on participation or abstinence. The strategic window is normally open for only a limited amount of time. The marketer must strike quickly and effectively.

Whether new or old product, the PWP must deal with such product strategy issues as:

—Establishing a plan to produce a product that fits the taste needs of the target market;

—Providing a brand name that can be easily indentified;

—Designing packaging that is attractive to the PWC (premium wine consumer);

—Establishing a long-term position to assure consistent grape quality;

—Establishing a service level policy that fits the needs of the market, within acceptable cost limits.

Distribution Strategy

The PWP will be as strong as his distribution network. Given that most distributors are not wine-oriented, have tremendous pressure from large liquor or bulk wine producers, and are experiencing some of the worst times in the industry's history,

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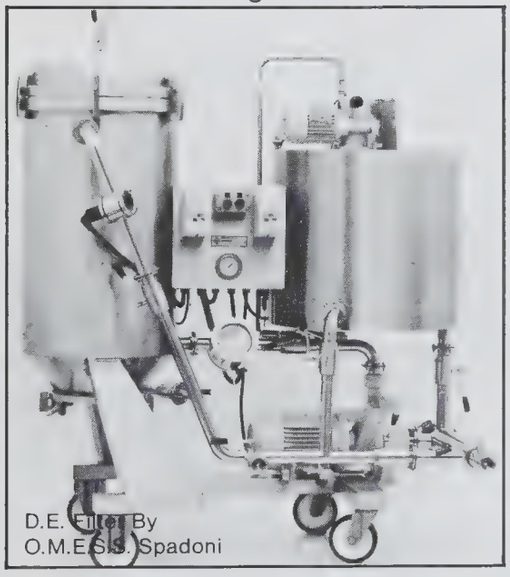

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the distribution strategy is complex.

Since as much as 80% of the premium wine consumed by the PWC is by medium and substantial consumers, these key consumer segments need to be penetrated if volume objectives are to be reached. Fifty percent of the PWCs in these two segments tend to dine away from home at least once/week and 22% dine out of the home twice/week.[37] Since medium and substantial PWCs see themselves as gourmets, restaurants that know both food and wine must be targeted.

In our research, medium and substantial PWCs purchased their wine 70% of the time from specialty wine shops and 30% of the time in supermarkets.[38] This obviously varies by local market, but it is crucial to understand this mix. Selection and location show up as the #2 and #3 most important 'influences' when purchasing wine. The number of retail outlets may not be nearly as crucial as where they are located and whether their selection is broad enough to attract medium and substantial PWCs.

What should the PWP offer the distributor?

–Wines that turn at least six times/year.

–Wines that can be moved without excessive discounting.

–Reasonable sales support materials and a prudent sampling program for key restaurants and retailers.

–A PWP/distributor relationship that allows for a mutual exchange of profitable ideas.

A sound distribution strategy will provide for a distribution system where cooperation, not conflict, is the norm.

Promotional Strategy

Promotional strategy may be the PWP's greatest strategic challenge. Brand ranks sixth as a buying influence for medium and substantial PWCs. Brand-switching is a function of the PWC's buying behavior. PWCs see wine as an avocation[39]. They are attracted by a broad selection of wines.

Thus, many of the standard promotional vehicles that work so well in consumer products are not very useful for promoting premium wines. Strategically, the PWP must keep in mind that it is the proper blending of the promotional mix–personal selling, advertising, sales promotion, and publicity–that separates promotional winners and losers.

Advertising in general is not a sound vehicle for the PWP. "Even regular wine drinkers seldom read wine advertisements."[40] In our research, less than 5% of the medium and substantial PWCs were influenced in their buying decisions by advertising.[41]

In general, media advertising is not viable for the PWP. If media advertising is used, objectives must be carefully defined, and accurately measured. What may be useful is to seek exposure on public radio, especially at drive time. Approximately 73% of the medium and substantial consumers listen to public radio on a regular basis.

Personal selling is the most powerful part of the promotion mix to be utilized by a PWP. Target markets must be limited so that the PWP can make contact with key restaurants, retail, and distributor factors on a periodic basis. With approximately 600 PWPs in California alone and another 1,000+ throughout the world, restaurants and retailers can only deal with a small portion of the premium wines offered in any given market.

As long as the product is in an acceptable taste range and is appropriately priced, restaurants and retailers will be highly influenced by personal relationships. A PWP should identify the 20% of the retailers and restaurants that purchase 80% of the premium wines and give them priority status with regard to personal contact.

Sales promotions are generally activities that support advertising and personal selling strategies. In our study, over 60% of the medium and substantial PWCs used coupons.[42] Proctor & Gamble and others have made this a coupon-conscious society. A coupon, where legal, is a tool that needs to be better understood and may be of significant strategic importance.

Publicity is usually free and very useful. In our research, 40% of the substantial and 27% of medium PWCs said their purchase decisions were influenced by wine-critic columns.[42] Knowing the wine writers in each major market and keeping them advised of a PWP's newsworthy items is low-cost and effective.

Promotion is an overtime investment. The payoff is long-term. A PWP will not greatly influence volume by turning the promotional pump on and off. Well thought-out and consistent promotional strategies will be successful if they merge properly with product, price, and distribution strategies.

Pricing Strategy

Assuming a wine is of acceptable taste, there is no other strategic decision that will influence the financial health of a PWP more than setting the right price. In our research, medium and substantial PWCs ranked price fourth in terms of what most influences their buying decisions.[43] Folwell and Baritelle found that price ranked third.[44]

There is one principle of pricing that needs to be etched in the policy book of every PWP: If prices are based on cost, the prices are probably wrong. Pricing is a function of competitive activity and market conditions. The consumer is indifferent to the PWP's costs.

The essential elements of a sound pricing strategy are:

Information:

A PWP must have the ability to receive, store, and analyze market price data by segments. Published data from *Impact* and other sources, plus the PWP's field observations and distributor input, provide a base.

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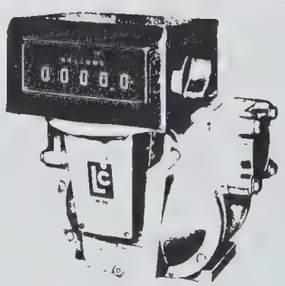

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Demand Factors:

The consumer's sensitivity to price: What are the price/volume relationships? Will $4.99 retail move 20,000 cases while $5.99 retail moves 10,000 cases?

The substitution factor: At what price level do consumers switch to alternative wines, *i.e.*, Chardonnays *vs.* white Burgundies?

Segment sensitivity: The restaurant and retail segments have completely different demand factors. For instance, price should probably not be the same for both.

Competition:

Know their fixed and variable cost.

Know their published *vs.* market price policies.

Know their pricing strategies (*i.e.*, do they price on costs or market factors?)

Have profiles of key pricing decision-makers. People compete with people.

Know how these decision-makers react to price moves.

General market conditions by target market:

North Carolina does differ from Ohio in the general level of wine knowledge—California consumer segments are more knowledgeable than North Carolina's.

Seasonal influences:

Thanksgiving and Christmas sales account for a substantial percentage of the PWP sales and profits.

Thus, price starts with what various segments will pay and the expected volumes at various price levels. It is fundamental that pricing will vary by segment—*i.e.*, geographic region, restaurants, and retailers.

When planning pricing strategies, keep in mind the concept of 'Price Bands'.[45] Ross has documented that the prices for a given product may have a substantial plus or minus variance from the industry price level. For example, the price band (spread between highest and lowest price paid for a given product) is quite narrow for generic products, but as the consumer progresses in quality, the price band is broader. Products with lots of perceived differences probably tend to have wider bands than products with no perceived difference.

Each additional margin point on every $1 million sales volume is worth $10,000 on the bottom line. Setting pricing objectives is easy. It is the strategic plan to reach these objectives and the execution of that plan that makes the difference in profit contribution.

Implementation

It is usually easy to think up clever and imaginative strategies. But getting them to work within company constraints and in dynamic marketplaces is not so easy. While companies remain committed to strategic planning, they remain frustrated and disappointed with implementation strategies.

The great majority of firms attribute discontent with strategic planning to failure in implementing their plans.[46] Strategies should be designed around the constraints of information, financial realities, personnel capabilities, control systems, and risk tolerance.

In companies that handle execution best, top managers allow others to constantly challenge and question them because it is not always possible for those at the top to be right.[47] Herein lies a major problem for the PWP who tends to have a very small organization.

Who questions the leader's decisions? Whatever the source, PWPs must find a way to have their ideas and plans thoroughly challenged. One of the main routes to small-business failure is one in which managers do as they please.

Implementation is the payoff. A good plan should not fail because of poor implementation.

Control

Most PWPs can agree that the last five years have presented some of the greatest challenges ever experienced by the industry. Historic changes in drinking patterns and in foreign currency rates resulted in historic changes in the consumption patterns of premium California wines. While these changes may seem extreme, they certainly have sent a message to the prudent planner: Be prepared to recognize major changes quickly. Good control systems perform this function.

Control is probably best divided into internal and external areas.

Internal needs center around cost control—production, marketing, etc. Our preference is to focus control on contribution.[48] Fixed costs must be covered by contribution (quantity multiplied by selling price minus variable cost). Careful budgeting of fixed costs is the key. When objectives are set in terms of contribution, the control system should measure contribution performance against contribution objectives. This requires constant monitoring of selling price, case shipments, and variable costs.

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External control needs are more complicated and require a greater time and cost commitment. External control information is not a given and varies widely among PWPs. Thus, a superior external control information system is a competitive weapon. It gives the PWP new ways to out-perform his rivals. Since the spectrum of external information needs is limitless, the PWP must select those areas that fit his needs and his financial resources.

Some areas to consider, however, are:

–Target market's size for premium wines in on-premise and off-premise segments.
–Sales volume of all premium wine distributors.
–Market volume of key PWP competitors.
–Growth rates of off-premise and on-premise segments.
–Quarterly price reports on key PWPs in target markets.
–Promotional activities by competitive PWPs.
–Distribution changes by competitive PWPs.
–New product introduction by competitive PWPs.

The ability to build a continuity of information leads to a valuable external-control system.

Contingency Plans

For those who bought those forecasts in 1980 of 10%+ annual growth, the reality of the past five years has been a severe shock. The wine business is a long-term investment. If a PWP is planting grapes now for wine in 1990, it would seem prudent to have an alternative if forecasted sales volume does not materialize.

Most PWPs have substantial debt, much of which is tied to the prime rate. In 1980, this prime rate was 18%. Today it is around 8%. The possibility of a return to 18% is real. Contingencies are in order.

The future is charted with a number of unknowns. All the planning in the world will not produce a perfect match between forecasts and actuals. Contingency planning is a useful tool to prepare for wide deviations from plan.

Conclusions

The great American wine boom is over, and it is not likely to reappear. The good news is that the absolute premium wine market is quite large and may have growth potential opportunities for the strategic marketer. The tough years are ahead. The weak will perish, the strong will get stronger.

Our position is that a solid strategic plan, based on sustainable competitive advantage, will offer a chance for profitable participation in the premium segment of the wine industry. Another strategic alternative is reacting to the moves of others. Being pro-active is usually a superior strategy to being reactive.

Footnotes

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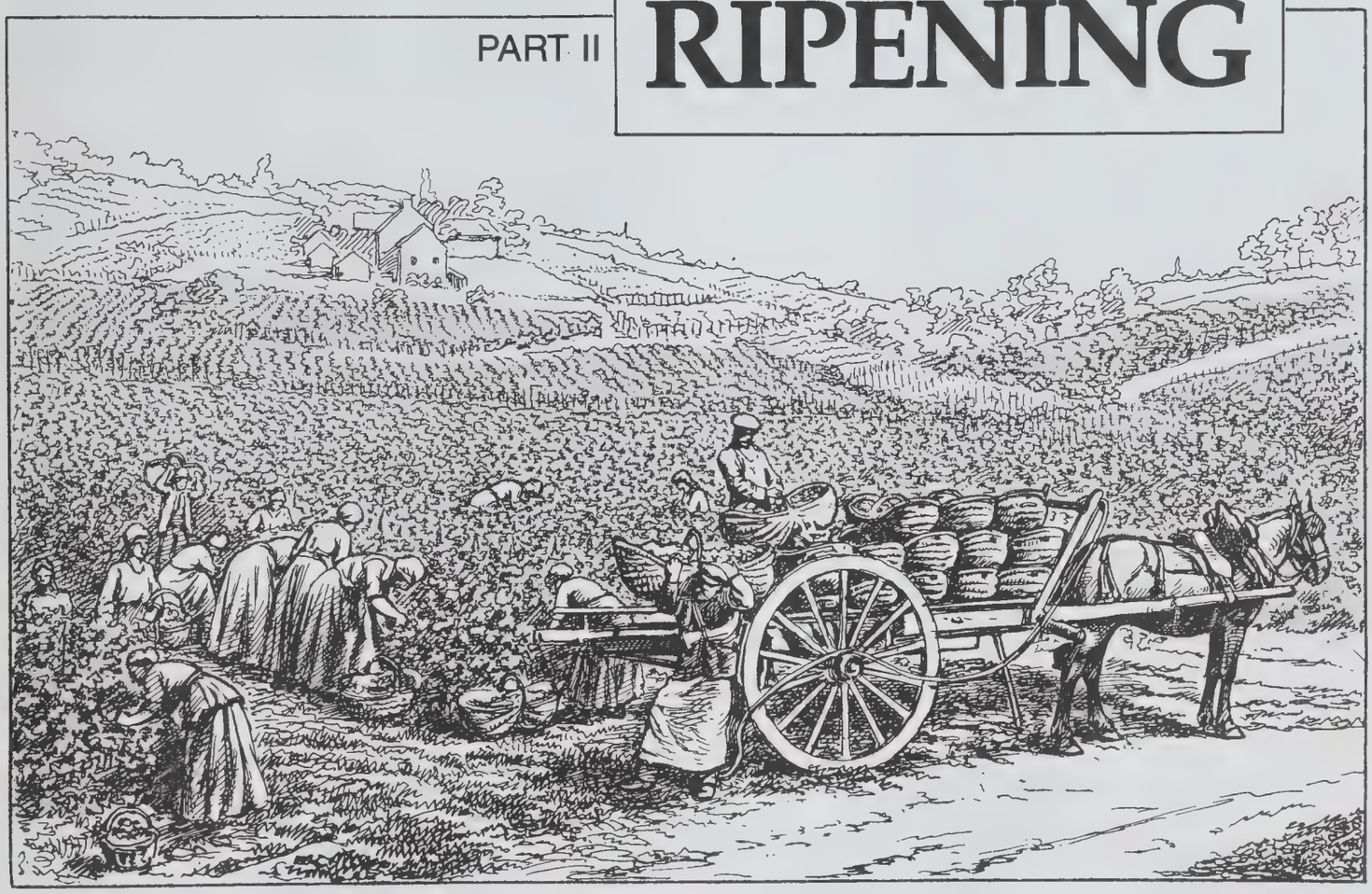
Burgundian Viticulture: RIPENING

PART II



Don Blackburn

Yield

Yield has always been an important production factor. Fifteenth-century grape growers obtained much of their food from their own gardens and domestic livestock, yet they still needed to produce enough fruit per acre to cover costs and feed their families. This was true whether they owned the land they worked or were sharecroppers.

In the 17th-century, yields for vineyards intended to produce fine wines were between 0.5 and 1.5 tons/acre. Vine genetics, tight spacing, low soil fertility, diseases and pests all combined to keep yields low. 'Vin ordinaire' vineyards, located on richer soils at the base of slopes, produced higher yields—as much as 3 tons/acre in abundant years. At this time, the owners of the best vineyards lacked the means to achieve such tonnage levels.

Increases in yield came slowly. Data for a premier cru vineyard in Nuits St. Georges during the period 1801–1854 show that 30% of annual yields were under 0.7 tons/acre, 53% were under 2 tons/acre, and only 17% were over 2 tons/acre. From 1949 to 1963, the same vineyard yielded more than 2 tons/acre in 47% of vintages.

This period included the great frost of 1956, which caused a sudden, unprecedented replanting and rejuvenation of Burgundian vineyards. This, in turn, led to higher yields in the 1960's and 1970's, as the new plantings came into mature production. Simultaneously, the international market firmed up, and growers realized that younger vineyards with higher yields were good investments.

In the 1970's and 1980's, yields went well above the levels prescribed by the Appellation Controlee (A.O.C.) system enacted in 1935. At that time, grand cru vineyards were limited to 30 hectolitres/hectare (2 tons/acre), communal appellations to 35 hl/ha, and regional appellations (Bourgogne) to 45 hl/ha (3 tons/acre). Currently, red grand cru vineyards produce an average of about 3 tons/acre, the lesser vineyards about a ton more. White grape vineyards routinely produce more than reds. Puligny and Meursault produce 4-5 tons/acre in some years.

Additions

Burgundians divide vintages into four types: 1) sunny and warm, yielding musts with good sugar and low acid (1961 is an example); 2) sunny and cool, yielding musts with good sugar and higher acid (1969); 3) cloudy and warm, yielding musts with low sugar and moderate acid (1960); 4) cloudy and cool, yielding musts with low sugar and high acid (1968).

This breakdown may seem obvious, but it serves well as a basic frame of reference, even though some details are difficult to plug into the four categories. For example, in Côte d'Or a particular must may be low both in acid and sugar. This can result

from a high proportion of malic acid combined with the fact that Burgundians always encourage malolactic fermentation in Chardonnay and Pinot Noir.

In France, it is illegal to add both sugar and acid to a wine, because that would allow a wine adulterer to 'water' a wine while maintaining a superficial structural balance. Acid addition to a non-chaptalised wine is not impossible under the law. However, it is only authorized in specific cases and requires a permit, which can take several months to obtain. Most producers just ignore the law, lock the doors and add the acid.

The term 'chaptalisation' is derived from Chaptal, Napoleon's finance minister. In 1807, he wrote an influential book called *L'art De Faire Le Vin* (The Art of Making Wine). One of Chaptal's most important ministerial acts was to find a domestic market for the beet sugar which, until the onset of a British naval blockade during the Napoleonic Wars, had been a major French export. By encouraging the use of beet sugar to ameliorate underripe grape juice, Chaptal created a double benefit.

Previously, winemakers added sweet substances to musts, but some of these additives contained impurities which imparted off-flavors or colloidal instabilities. Molasses, starches and obscure organic mashes had become so common that, by 1845, the Congress of Vignerons in Beaune moved that their use be forbidden. Chaptal's effort to encourage the use of clean sugar sources did not eliminate this problem, but it certainly was a step in the right direction.

I lack specific statistical data regarding the incidence of chaptalisation in Côte d'Or. However, my impression, a result of discussions and observations during six harvests in Burgundy, is that more wines are chaptalised than not. Probably less than 20%—and possibly less than 10%—receive no sugar.

Chaptalisation is done to achieve proper alcohol levels (12.5%—13.5%) at bottling. Regulations require that sugar be added only to musts which have obtained their 'degre minimum'. Musts below this level may not be ameliorated, nor may they be sold under an A.O.C. label or blended with a wine destined for A.O.C. status. Regulations also forbid growers from adding a quantity of sugar which would increase alcohol potential by more than 2%. Thus, if a must comes in at 11°g/L, it can be raised as high as 13°.

Prudent winemakers tend to feel that any increase beyond 1 or 1.5° may produce discernible hotness in a wine. They believe that routinely adding 2° (or fudging to 2.5° or more) is unwise. One important factor when calculating appropriate sugar additions is alcohol loss in barrel ageing. Given the dampness of most Burgundian cellars, a wine will lose more alcohol than water through the wood. Since a winemaker can count on losing about 0.5% alcohol in this way over an 18-month period, it is normal to overshoot by that much to start with.

It should be stressed that the majority of the best wines currently produced in the Côte d'Or are chaptalised. Burgundian growers are pleased to obtain sufficient natural sugar, but, just as Americans accept acid adjustments, Burgundians know that sugar addition is an often necessary practice whose proper execution brings a wine closer to its structural ideal.

Variations

In the Côte d'Or, a 10-year average (1960—1969) for sugar at harvest was about 20° Brix (a high of 24.5° and a low of 15.5°). The normal annual range is 17.5°—22.5° Brix. These extremes are attributable to Burgundy's highly variable weather. It seems that, in Burgundy, a great many factors work together to delay harvest until rain threatens and cool weather slows ripening to a crawl. One of the surest signs of a competent, quality-conscious grower is the extent to which, year after year, he picks riper grapes than his neighbors do (they may just buy more sugar).

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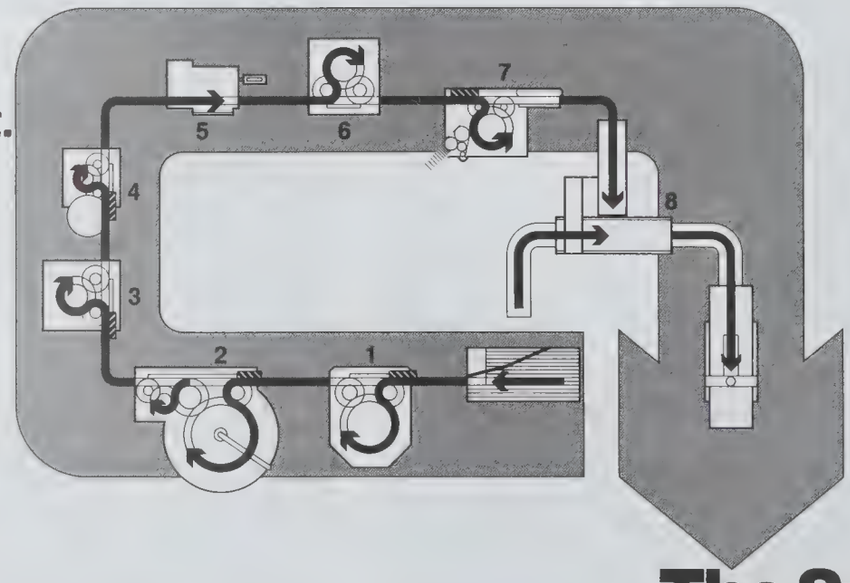

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Vignerons seldom pick grapes at too high a sugar level. The vintage of 1976 was a rare one in which many growers should have foregone the last stage of ripening, even though it would have meant passing up an opportunity not to chaptalise. That year, as a result of drought stress, vine leaves uncharacteristically turned color before harvest.

Potassium levels in Burgundian musts generally vary from 700 to 1800 ppm. Some agronomists feel that these concentrations have increased due to excessive use of potassium fertilizer. Another possible contributor to higher potassium levels is greater vine vigor, a result of recent changes in viticultural practices. In a year such as 1977, juice potassium levels between 1100 and 2000 ppm contributed to problematically high pHs.

Table 1

Year	Must pH	Must K+ ppm	Wine ph after MLF	ph Increase
1976	3.00-3.25	700-1100	3.30-3.30	0.25-0.30
1977	2.95-3.20	1100-2000	3.70-4.00	0.75-0.80
1978	3.00-3.25	800-1300	3.50-3.65	0.40-0.50

Enologists throughout the world have become increasingly concerned with must/wine pH, perhaps to the point of distraction. Burgundian vignerons have only recently begun to ask their labs to run pHs. When the enologist warns of a high pH, the grower may add a little illegal tartaric acid, or he may just let it ride.

If the grower believes the wine has an abundance of oxidative enzymes from bunch rot, he may add more SO_2. In any case, most growers tend to take high pH in stride. They know it occurs in both the worst vintages (*botrytis* consumes tartaric and malic acids), and the best (higher temperatures result in enhanced acid respiration).

Enological Station data reveal a ten-year average (1960–1969) of 3.2 pH. The highest value for the decade was 3.35, the lowest 3.05. These extremes correspond to two of the best vintages of that period: 1964 (3.35 pH), and 1969 (3.05 pH). It is quite remarkable that the decade's pH averages for Pinot noir and Chardonnay are nearly identical, 3.195 and 3.2066.

Just as viticultural practices appear to have increased grape potassium levels, they also seem to have affected pH. Though Burgundians are less pH-crazed than others in the wine world, their viti-vinicultural community, especially its scientific side, is becoming concerned.

Pinot noir and Chardonnay in Burgundy also have similar levels of titratable acidity. The ten-year averages (1960–1969), measured as tartaric, are 9.409 g/L and 9.400 g/L (0.9409% and 0.9400%). As with pH, and for the same reasons, the extremes occurred in the best and worst years. The decade's highest T.A.s were 12–13 g/L (1.2%–1.3%), the lowest were 5–6 g/L (0.5%–0.6%).

Given their use of malolactic fermentation, it is understandable that Burgundian enologists pay particular attention to the malic/tartaric ratio. They have observed that the proportion of malic acid in the grape depends on several factors:

1) ***Annual variation*** results from the growing season's weather. When summer is cool, the grapes respire a minimum of malic acid. French research indicates that, when the ambient temperature is below 30°C (86°F), the grape's major energy source is carbohydrates. Above that, it respires malic. Tartaric respiration requires higher temperatures still, so it is always depleted far less than malic is.

2) ***Vineyard variation*** occurs because of all the specific factors which influence vine vigor and grape micro-climate. The greater the vigor, and the greater the degree to which the leaves shade the grapes and each other, the more malic acid the grapes will retain.

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The 1986 Harvest – The state of the crop as of Sept. 24, 1986 in *LE BIEN PUBLIC*, Dijon – excerpted from a talk given by Monsieur Trollat, Director of the Beaune Enological Station, at the annual pre-harvest meeting of the 'Young Professionals of the Vine'.

"The current state of the crop is quite satisfactory: no significant insect or fungal problems. On the other hand, the relative drought of July and August has sensitized grape clusters to *Botrytis cinerea*. We have already observed that bunch rot is more serious after a dry period.

In late August, we had ten days of rain, but the clear skies during the first half of September kept *Botrytis* at less than 1%. The rains of September 13–17 spread bunch rot to 5–10% of the crop. We hope that the cool, sunny weather since then will slow fungal development and maintain needed acidity until sugar reaches adequate levels.

Due to the recent rains, clusters are very tight, to the point where some berries have been pushed off the stem.

This year's juice yields are greater than 1985. Given the absence of millerandage (tiny berries within the cluster) the abundance of water available to the vine roots has swelled the crop quite evenly. We are observing 65–75% juice as a ratio of total grape weight. Remember that this is a reference co-efficient rather than an absolute proportion, and that it can vary between now and harvest.

As of September 18, we have just had a substantial drop in total acidity. The Pinor noir T.A. average for Côte de Beaune and Côte de Nuits is 8.3 g/L measured as sulfuric (1.25% as tartaric). Chardonnay averages 7.3 g/L (1.125% as tartaric). Pinot noir's pH is higher(3.18) in Côte de Nuits than in Côte de Beaune (3.11). Chardonnay's pH has a mean of 3.12. Our September 16 samples of Pinot noir yielded 5.7 to 7.7 g/L tartaric acid and 5 to 6.3 g/L malic acid; for Chardonnay, 7 to 8 g/L tartaric and 1.9 to 4.3 g/L malic acid.

Due to the existence of some bunch rot, picking crew chiefs should keep a close watch, and plan ahead of time how they will handle cluster sorting if the need arises. When grape trays are stacked for transport, bear in mind that the clay stuck to the bottoms can contain as much as 2% iron, which you don't want in your wine.

Mechanical harvesters are becoming more and more common in Côte d'Or. It is increasingly important that I remind you to properly adjust the machine, and pay close attention to the condition of the must it produces.

The mechanical harvester eliminates some 'dry' bunch rot, but it does not do the same for the moist form. Therefore, during transport, laccase (an oxidative enzyme) can rapidly alter the must's free juice, which may be as much as 30% of the juice total. The mechanically picked must should be sulfited immediately for this reason.

Sulfur dioxide should not, though, be considered a panacea, because of its side-effects. In particular, when added to must before pressing it causes an extraction of yellow pigments which can yield unwanted color in a white wine.

Mechanically harvested must is generally more pulverized than hand-picked and conventionally crushed grapes. It thus yields leesier juice. It also picks up exterior elements (leaves, petioles, wood fragments, staples, etc.) Elimination of a maximum of this debris is important to wine quality.

Despite four years of large scale mechanical harvesting in Côte d'Or, the consequences of the method are still unknown. We have observed thus far that red wines made from mechanically harvested grapes tend to be more aromatic as young wines. This may be due to the proportion of berries left intact by the machine and through transport. In the fermenter, they become the site of an intracellular mini-fermentation. These aromas dissipate rapidly, and do not appear to generate ulterior, beneficial wine components."

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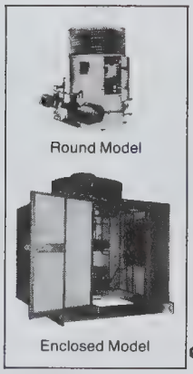
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3) ***Varietal variation*** exists because some vinifera varieties are more efficient at metabolically breaking down malic acid than others. Cooler climate varieties tend to be more proficient in this regard, which is one of the reasons they have pH problems in warm locations.

Malic Acid g/l
(Data from Beaune Enological Station)

	Pinot Noir		Chardonnay	
Vintage	Range	Median	Range	Median
1964 (Good)	2.0-3.0	2.5	1.5-3.5	2.5
1965 (Bad)	4.5-7.0	5.5	5.0-7.5	5.0

Juice Yield

Researchers at the Beaune Enological Station have been using a grape ripeness parameter few people outside of France are familiar with. The Station has a lab press used every year to press grapes from test plots. The purpose is to measure the quantity of juice which can be drawn from a kilogram of grapes. An average of samples taken from target vineyards representative of the region yields a weight-to-weight proportion of grapes to juice.

Whereas Americans think of juice yield as a function of machine efficiency and pressing method, Burgundians keep these factors constant and regard juice yield as a trait of the vintage. Annual extraction average (juice yield) varies from 55% in a dry year to 80% in a wet year.

Since all the juice is not extracted by this simple press, the Enological Station's equation does not measure the actual percentage of the grape in liquid phase. It is, however, a useful measure of the juiciness of the average grape in a particular year. The Station announces the results just before harvest, leaving it to the individual grower to determine to what extent his own vineyard conforms to the year's norm. He can expect his yield to follow the general trend.

Juice yield is a big quality factor for any wine, because it has a major influence on wine texture, flavor and aroma. For red Burgundy, it is even more important because Pinot Noir, which has the potential to be rich and charming, can also easily end up thin and dull. Chardonnay adapts better to large crops and high juice yields, although great white Burgundies—the great wines, not just the famous names—do not result from these conditions.

The best vintages generally have juice yields of 60–70%. Those with 60–65% have the most body and flavor. Experience has shown that when Pinot Noir exceeds a juice yield of 72%, the resulting wine is of the sort Burgundy's critics vilify. Conversely, tasting panels routinely prefer wines from grapes yielding 60–70% juice.

The Burgundian notion of juice yield derives from a method that has existed in Burgundy for centuries. It involves withdrawing a portion of Pinot noir juice as soon as the fermentation vat is full, and setting it aside to make rose. The intent is to re-establish, when appropriate, a proper liquid-to-solid balance.

I have done this in Côte d'Or and found it to be a very successful technique. It is extremely rare today because rose prices are much lower than those of even regional appellations. I know of at least one California winery which has achieved quite satisfactory results using juice reduction.

Stems

Perhaps the major myth about Burgundy among the world's winemakers is that the reason Burgundians can vinify Pinot Noir with stems is that the stems are lignified. Not once have I seen a stem in Côte d'Or more woody than what I have seen elsewhere. They are green, sometimes with a reddish trim. My impressions correspond to Burgundian conclusions, which hold that:

1) Stems fix (capture) pigment from the juice, but they increase the wine's long-term color stability.

2) Contrary to popular opinion in France and elsewhere, stems do not increase acidity; rather they cause an insignificant decrease in acidity.

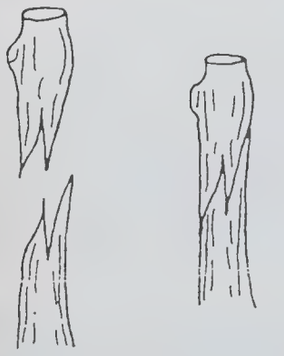
3) The appropriate amount of stems varies from 0% to 100% depending on the grapes and people involved.

4) The initial stemmy signature dissipates. One must either like it or wait for it to disappear. When small proportions of stems are used, the signature is quite discreet.

5) It is uncertain how the allegedly coarse grape stem tannins compare with oak tannins whose intervention occurs later in the wine's development.

6) Stems are cheaper than French oak.

Benchgrafts



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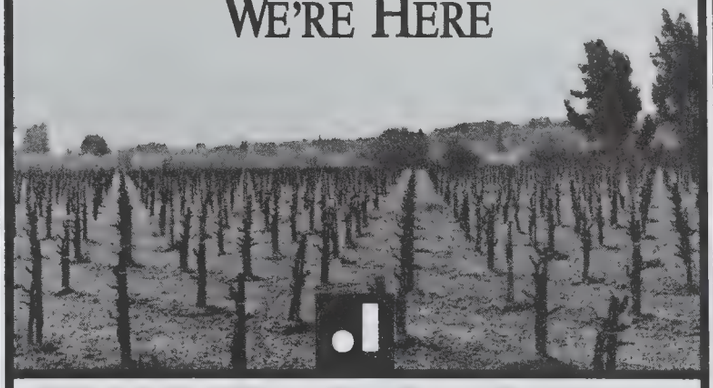

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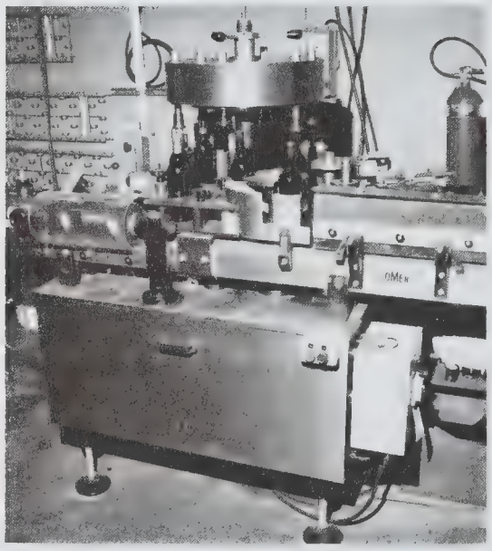
LABELERS

Remember that old "I Love Lucy" classic where she and Ethel are wrapping chocolates in a candy factory? The conveyor speeds up and they can't wrap fast enough. Rather than admit her incompetence, Lucy tries to hide the chocolates she can't wrap by eating them until her mouth's as full as a greedy hampster's.

Being foiled by a conveyor makes a great sit-com episode, but not so on your bottling line. Just picture Lucy drinking every bottle of wine your labeling machines messed up. Right! Not so funny.

PWV presents here the second installment of our Bottling Line Purchasing Guide: Labeling Machines. If there is any question in your mind that your present equipment might need updating, the following suppliers will be happy to discuss your needs with you. Just tell them you saw them on CBS—I mean in PWV! In the next PWV, watch for the third installment: Cleaners and Packagers. Remember that old 'Three Stooges" classic where Moe is. . .



The Compleat Winemaker

The Compleat Winemaker sells and services rotary transfer labeling machines manufactured by COMEN of Asti, Italy. These machines apply a full glue pattern to the label with any combination of front, shoulder and back label stations available.

The smallest machine, model SR/1, labels up to 36 bpm. Larger models are available for speeds to 120 bpm. Specially designed machines are available for champagne, special mold and large bottles. A variety of options are available such as second pressing stations and pack-off tables. The electric motor and electrical controls are of American manufacture to meet any voltage-phase requirements. Please write or telephone for a list of satisfied COMEN labeler owners.

For small applications, Potdevin and Scheaffer label pasters are available. The label pasters are suited for all labeling in the small winery and for case and special bottle labeling in larger wineries. Potdevin labelers are motorized, simple to operate and dependable. Scheaffer labelers are motorized and have the special feature of a removable glue application mechanism enabling glue to be kept in the glue pot for the next use (next day preferably, as chemical changes occur quickly when glue is exposed to air). All replacement parts for these American manufactured labelers are in stock.

Inquiries to: The Compleat Winemaker, 1219 Main St., St. Helena, CA 94574, 707/963-9681.

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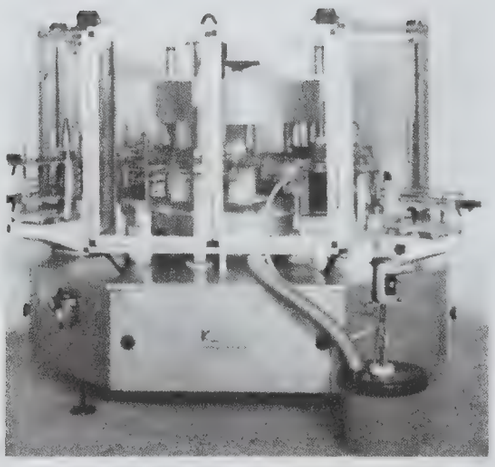

Criveller Company

Criveller Company offers the KOSME line manufacturing a wide selection of labelers with either an oscillating or static magazine. Rotary and in-line models are available. A front label, back label, and neck label can be applied with the rotary model. The in-line model can apply a wrap-around label. With the static model, a wrap-around neck label can be positioned perfectly on a champagne bottle.

Installation and training is provided by Criveller personnel. Spare parts are kept in stock and fast delivery is available for change-over parts. References are available in Canada and the USA.

A completely stainless steel monobloc filler/corker manufactured by Calo' of Milano, Italy is also available. A ten-spout filler and one-head corker can handle 35 bpm. Larger units are available for production up to 70 bpm. Optional on all monoblocs is a CO_2 column which will add the proper 'sprizzy touch'. The same column can be used to add nitrogen. Semi-automatic equipment is also available.

Inquiries to: Criveller Company, 6863 Lundy's Lane, Niagara Falls, Ontario, Canada L2G 1V7 or Criveller Company USA, PO Box 162, Lewiston, NY 14092; 416/357-2930 or 416/358-5202.

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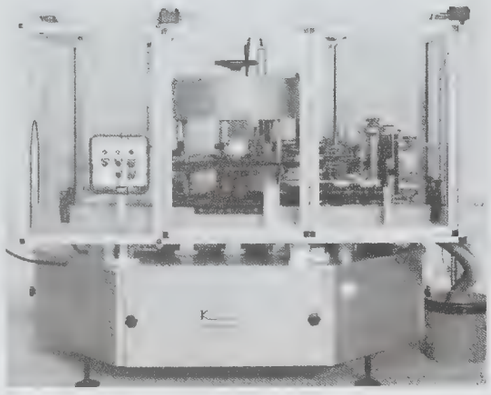
Elmira Fabrication, Inc.



Two manufacturers are represented by E.F.I. The Kosme labeling machines from Italy utilize hot melt glue and can handle from 1,000 to 60,000 bph. The bottle sizes range from 187ml to 1-gal. Labeling capabilities include body, back, neck and full-wrap labels.

The Alfa labeling machines made in Italy are also represented by E.F.I. There is the Alfa Juniormatic to apply pressure sensitive labels from 1,000 to 12,000 bph. The Enomatic can handle medium speed labeling from 4,000 to 7,000 bph. The Seniormatic is for high speed application between 6,000 to 12,000 bph. The Staticmatic can apply pressure sensitive labels to between 12,000 and 25,000 bph.

All labeling machines are backed by full warranty and complete service.

Inquiries to: Elmira Fabrication, Inc., 765-A Eubanks Drive, Vacaville, CA 95688, 707/448-7210.

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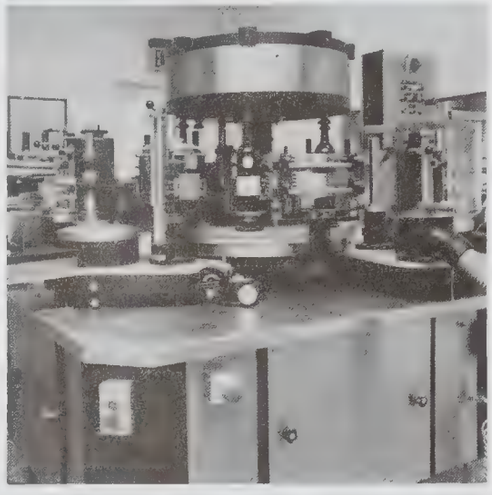
fp Packaging, Inc.



Cavagnino & Gatti, represented by fp Packaging, builds many different models of rotary labelers for various applications and speeds. The newest model series is the CG84 which has a new system of label transfer using a continuously rotating double glue platen.

This continuous rotation eliminates direction changes and sudden acceleration inherent with systems using oscillating platens. Glue is applied via a glue roller to the rotating glue platen. The platen is machined to the exact size and shape of the label. The rotating glue platen picks the label from the label magazine, applies an overall glue pattern to the label and transfers it to a rotating pincer roller.

Fingers on the pincer roller close against the leading edge of the label and remove it from the glue platen. The pincer roller then contacts the bottle, the fingers release the label and it is applied to the bottle. The bottle is then rotated against brushes to insure proper wipe-down of the label.

Important features of the CG84 series are: 1) Label transfer accomplished by cams and bearings [no gears]. 2) Label magazine is controlled by electronic sensing and pneumatically driven. 3) Labeling unit cams operate in sealed oil baths with forced lubrication. 4) Pneumatic piston glue pumps transfer glue from the glue container to the glue roller. 5) Simple and fast changeover. 6) Ability to apply from one to five labels on a bottle including full-wrap labels and registered spot labels. 7) Speeds from 50 bpm to 800 bpm. 8) No bottle–no label feature. 9) Easy operation and maintenance. Lubrication is required weekly on upper turret bottle holders and pincer. Lubrication time is approximately 15 minutes/week.

Inquiries to: fp Packaging, Inc., 229 Ryan Way, PO Box 881, So. San Francisco, CA 94083, 415/742-5400.

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MAG USA Schymanski

MAG USA offers a wide range of sizes and models of labeling machines. Small, medium and high production rates are possible with machines having 4, 6, 9, 12, 18, up to 36 centering heads. These provide an output between 15 and 1,000 bpm.

Pneumatic glue pumps with an automatic glue dosing device are standard equipment. Additonal equipment, if desired, includes: photoelectric cell check system with bottle positioning, ink stamper, code printer, glue header, and rotating table.

Inquiries to: MAG USA, PO Box 5060, Napa, CA 94581, Phone: 707/253-0672; Fax: 707/253-8083.

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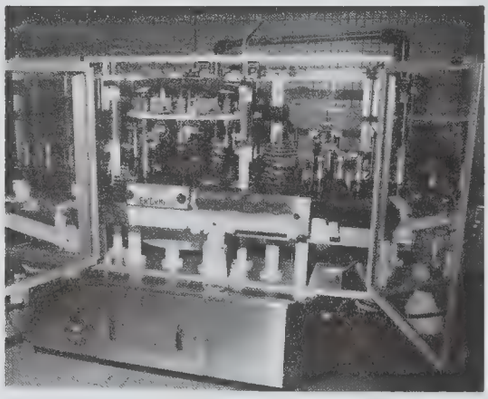

MeyerWorld Packaging Machinery

MeyerWorld labelers offer diversified labeling availability—wet glue and pressure sensitive. The labelers are capable of applying single or multiple labels, paper, foil and varied materials on an array of sizes and shapes of bottles. Both wet glue and pressure sensitive machines can be supplied in-line or rotary in design.

Included in the MeyerWorld product line are the Alfa series, Juniormatic, Enomatic, Seniormatic and the newest high-speed Quattro. Recently introduced is the MeyerWorld/Alfa 360 series full-wrap labeler capable of speeds from 50 to 800 bpm. This machine utilizes hot melt or a combination of wet glue and hot melt, depending on application.

Also new to the pressure sensitive line of labelers is the MeyerWorld Maxam rotary and in-line models including multiple label capability and zero downtime feature.

The label transfer system on all wet glue labelers is completely rotary in motion with no oscillating motion. Labels are glue-picked from a stationary label magazine with fully rotating pallets using wet glue. The label is then transferred from the pallets with cam-activated picker fingers, mounted on a segmented rotary transfer turret, and directly transferred to the bottle.

The recirculating glue system includes an air-driven piston-type glue pump. The plastic glue return is easily removable for cleaning and a micro adjustment on the scraper allows for precise metering of adhesive. All models have been designed for easy cleaning, low maintenance and no tool change-over.

Inquiries to: MeyerWorld Packaging Machinery, 60 Prescott St., Worcester, MA 01605, 617/755-3119 or Equipment Systems Corp., 7567 Amador Valley Blvd. #208, Dublin, CA 94568, 415/828-0215.

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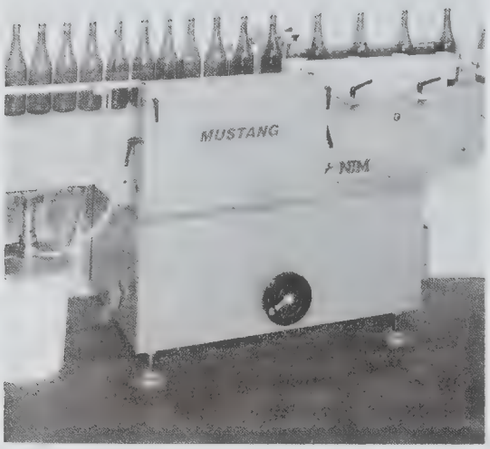

New Jersey Machine Inc.

NJM offers several glue labelers and a complete range of pressure sensitive labeling systems.

The NJM **Mustang** Model #315 is the most popular NJM automatic labeler for standard wine bottle applications. It handles either single 'spot' or 'full-wrap' labels on bottles at speeds up to 250 bpm. It is specifically designed for quick change-over and copes efficiently with long production schedules or short runs of many different label styles, shapes and sizes. Heavy duty rugged construction and a unique label handling and gluing system combine to make a labeler which is very simple to operate and maintain.

The Mustang uses a stationary label hopper from which a vacuum pick-up starts each label into a roller-transfer system which provides accurate control for uniform glue application and placement on the bottle. Because glue is not involved in the label pick-up process, the system economizes on glue and there is no excess glue to clutter the machine or smear the finished product. For most wine labeling applications, few if any change-over parts are required.

An air-operated glue pumping system is fully recycling, self-cleaning and adaptable to a wide variety of adhesives to suit any combination of glass or plastic container with either standard regular paper stocks or complex fancy label structures.

Two models are available: Mustang-I is for bottles up to 4-inch diameter and labels up to 7 ½-inch width; speeds up to 250 bpm. Mustang-II is for bottles up to gallon size and labels up to 14 ½-inch width; speeds up to 150 bpm.

The **Stallion** automatic labeler model #316 has the capability for single-panel or simultaneous back and front labeling on wine bottles. The heavy-duty production machine incorporates the same positive and accurate vacuum-controlled label handling system as the Mustang. There is the addition of a vacuum turret after the glue roll, to transfer a label to the bottle under the control of the machine's continuously moving straight-line.

The model #316 is a straight-line labeler which can be supplied with labeling stations on either or both sides of the conveyor, depending on plant layout and bottle dress requirements. A bottle-feed screw system combined with an easily adjustable top clamping belt, assures smooth, precise, metering, spacing, and control of each bottle.

The model #316 Stallion uses the same air-operated recycling glue system as the Mustang labeler and requires few change parts. Gears that run in oil, easy to reach lubrication points, durable long-lasting bearings, fully coordinated electrical controls, anti-corrosion finishes and full-barrier guarding, makes this labeler very safe and easy to operate and maintain.

The latest addition to NJM's line of automatic glue labelers is the **OCEA 'Diamante'**, imported from Italy. The rotary turret bottle handling system in the 'Diamante' series of labelers, combines with a modular construction system to offer any number of turret positions and sizes that production speeds and bottle dress require. As many as five different labels can be applied to bottles in speeds from 100 bpm to 500 bpm.

High impact plastic bottle handling parts are used throughout the Diamante system from the infeed timing screws to the exit star wheels, assuring smooth bottle flow, minimal breakage and precise positioning in the labeling stations. An air-operated re-circulating glue system supplies each of the labeling stations with the exact needed amount of adhesive.

Special labeling needs for promotions, coupons, and stickers are, in many instances, readily met by the new pressure sensitive labeling process. Pressure sensitive labeling is a relatively simple process as it makes use of low-cost dispensing hardware which handle a wide variety of label structures that are usually readily available from local sources. Such systems can be quickly installed and at moderate investment.

NJM, Inc. offers a complete range of pressure sensitive labeling systems, from the most elementary to the most complex. The NJM Colt model #305 pressure sensitive label dispenser can be furnished with any of a wide choice of mounting hardware and operating components to handle labels ranging from 5/8-inch width X 7/8-inch length minimum to 5-inch width X 8-inch length at most winery bottling line speeds.

The NJM Auto-Colt model #326 is a free-standing but simple, completely automatic pressure sensitive labeler. It has fully integrated and synchronized controls to readily coordinate varying line speeds and conditions. It utilizes the model #305 Colt as the basic label dispensing means and can be equipped with a selection of standard bottle spacing and control devices and necessary types of pressure stations to assure clean efficient labeling.

Inquiries to: New Jersey Machine Inc., 1750 East First Street, Napa, CA 94559, 707/253-9204; 223 East Thousand Oaks Blvd., Thousand Oaks, CA 91360 805/495-9579; 6 Commerce Road, Fairfield, NJ 07006, 201/227-8300.

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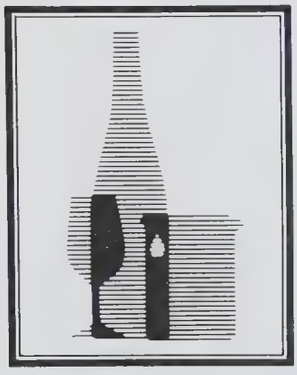

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Process Engineers, Inc.

Omme labelers manufactured in Italy are sold and serviced by Process Engineers, Inc. Two styles are available: in-line to apply one label and rotary to apply up to three labels.

Common features are: full glue pattern on the label, piston glue pumps, s/s clad frames, variable speed drives, adaptable for different size and shapes of bottles and labels.

Inquiries to: Process Engineers, Inc., 3329 Baumberg Ave, Hayward, CA 94545, 415/782-5122.

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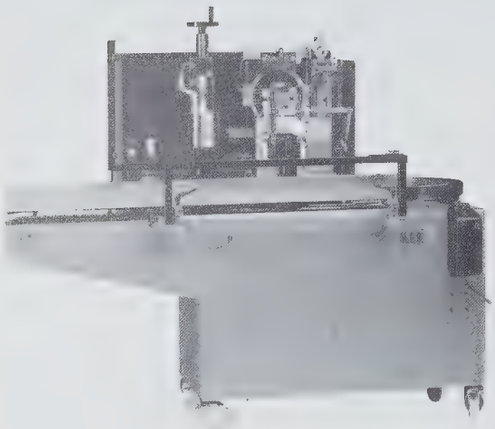

Prospero's Equipment Corp.

Prospero's Equipment Corp. is the US distributor of two manufacturers of labeling machines. For small wineries, the M.E.B. B91 series, and for larger wineries, the Kosme rotary machines.

The M.E.B. B91 is a compact, fully automatic in-line labeling machine with variable speed drive, a stainless steel product chain and a rotating bottle collection table. It may be directly connected to any automatic filler/corker or used independently. The picker-type operation will place a front panel label and a neck label on up to 1,800 bph. It will label any size bottle from 375ml to 1.5L.

The B91 uses cellulose-based glue for easy cleanup. The glue is supplied as dry powder in one-kilo bags. One bag will make 33 liters of glue. A cold-proofing additive is available.

The B91/10 model has an auxiliary arm that can hold a tin/lead capsule spinner or a heat-shrink oven. This allows fully automatic spinning of foil capsules on the machine.

The KOSME rotary machines are a new advanced line of fully automatic labelers. They can apply front, back, and neck labels. Special versions are available to place up to five labels. The KOSME rotaries are available in either standard moving magazine or a new fixed magazine version. The fixed magazine is perfect for exact positioning of labels required by champagne bottles. The machines can also be equipped with a photo-electric positioner for champagne neck labels.

Production capacities are as follows: the four-head machine, 45 bpm; six-head, 55 bpm; and nine-head, 65 bpm. Standard features include glue pump with electric heater, rotating heads to prevent capsule marring and variable-speed transmission.

Parts are stocked in the United States and service is provided by a factory trained technician.

Inquiries to: Prospero's Equipment Corp., PO Box 243, Pleasantville, NY 10570, 914/769-6252. In California: 840 Piner Rd. Suite #14, Santa Rosa, CA 95401, 707/523-2900; 715 Arroyo Ave., San Fernando, CA 91340, 818/365-4403. In the Northwest US: Steve Scholz & Assoc., 31960 Charbonneau Drive Suite #105, Wilsonville, OR 97070, 503/694-5252.

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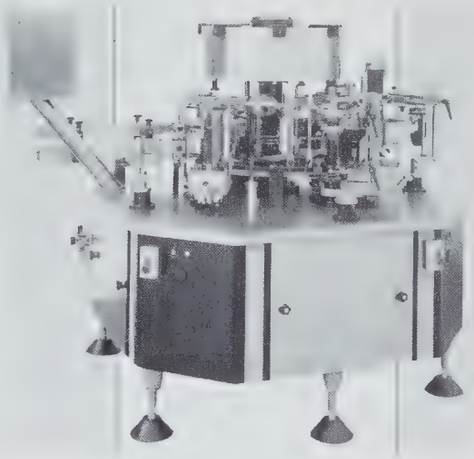

The Cavagnino & Gatti labelers from Italy represented by RLS Equipment range in capacity from 1,200 bph to 60,000 bph. The labelers can be purchased to apply labels to the body and back as well as wrap-around neck labels on champagne bottles. For applying labels to still wine, machines can apply 1, 2 or 3 labels. The same machine can be equipped with a tin-lead capsule spinner or a heat-shrink unit for PVC capsules.

Label transfer is done by oscillating glue segments that apply the glue to the total back of the label and are both reliable and practical.

The Cavagnino & Gatti rotary labelers can be fitted with special devices such as: tack strip applicators, code-printing systems, automatic speed controls and photo-electric and mechanical spotting.

When labeling machines are purchased from RLS Equipment Co., a technician from the manufacturer is brought in to teach your personnel how to maintain and operate your unit with the most efficiency.

Inquiries to: R.L.S. Equipment, Co. Inc., PO Box 282, Egg Harbor City, NJ 08215, 609/965-0074 or 1-800/527-0197.

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Tecnipac, Inc.

A complete line of labelers is available in three basic categories:

The **Selenia** semi-automatic labeling machine utilizes cold glue and can handle up to 1,000 bph. No changeparts are required for handling minatures to magnums.

The **M.E./Tecnipac** automatic in-line labelers are capable of handling up to 3,000 bph, using a stripe glue pattern and requiring no changeparts for a wide variety of front or wrap-around labels.

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This itinerary includes four distinctive wine regions of France. The tour will be led by Don Neel, publisher of **PRACTICAL WINERY/VINEYARD** and Raymonde Kaplan, an experienced tour leader who is a fluent speaker of French and English. Kaplan, born in France, taught French and English in California schools for 20 years and now resides in France.

The tour group is limited to 14 participants to offer maximum access to producers for in-depth interpretation of grapegrowing and winemaking as practiced in France. Vin-Tours, under the direction of Lynn Garric, prepared the itinerary, after conducting technical tours of the French wine industry since 1982.

After arrival in Paris, the tour begins with visits to two producers of white and sparkling wines in the Loire Valley. We will visit the Taransaud Cooperage in Cognac to observe barrel making firsthand.

Within the Bordeaux region, we will visit five producers. In the Medoc, there will be a cellar tour at Chateau Margaux followed by a vineyard and cellar tour at Chateau Giscours with a vertical tasting and dinner. Grapegrowing and winemaking will be discussed with the winemaker at Yquem in Sauterne, another in Graves and a visit to Chateau Tour des Combes, a producer of merlot in St. Emilion.

A visit to a producer of malbec will be an option along the route to Beaujolias where there will be a cellar tour and barrel tasting with an enologist at Domaine Deboeuf.

During two days in Burgundy, we will have a cellar tour and barrel tasting at Louis Jadot in the Cotes de Nuits. We will visit two Chardonnay producers and have a vineyard and cellar tour and/or a cooperage tour along with a tasting in Chambolle-Musigny.

The final region is Chablis to include a vineyard tour and tasting in the caves at Henri La Rouche. One full day is planned for sightseeing in Paris before the return flight home.

Cost of the tour package is $2,825 per person double occupancy; single supplement, an additional $250. This cost is based on economy class airfare and a minimum of 10 adult passengers. The price is calculated on airfare and exchange rates quoted on date of printing and is subject to change should air tariffs, fuel charges or the U.S. dollar exchange rate vary.

Included in the tour price is round-trip air fare San Francisco to Paris and twin-bedded rooms with private baths. Continental breakfast throughout and one full meal daily; 12 dinners and 2 lunches. Rental of cars and/or 9-passenger vans for all group transportation in France. Service of professional guide and full program of fieldtrips and sight-seeing as indicated in itinerary. All taxes on hotels, car rentals and air fares. Transfers and handling of baggage between San Francisco and France for one checked suitcase per person.

This tour is strictly limited to 14 participants. Reservations will be accepted upon receipt of $275 deposit per person by January 1, 1988. $1,275 is due by February 1 and $1,275 is due by April 1. Please mail check for $275 deposit per person payable to HMS Travel, 1057 College Avenue, Santa Rosa, CA 95404

Please write **PRACTICAL WINERY/VINEYARD** for more information contained in a detailed brochure or call Lynn Garric at Vin-Tours, 707/539-2078 or Loretta Slyh at HMS Travel, 707/526-2922. Please ask for references of winemakers and grapegrowers who have happily made this tour.

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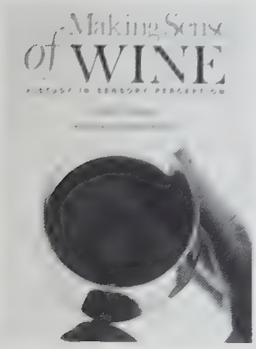

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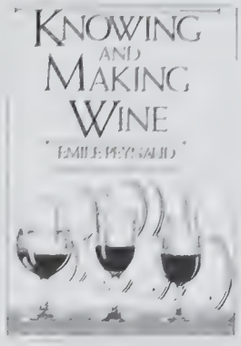

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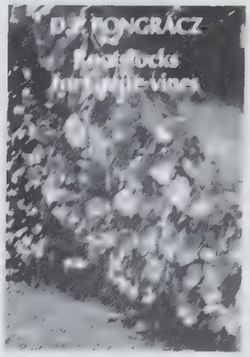

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***Winegrape Day* at CSU Fresno** Topics: Dynamics of establishing wine grape prices –Dr. Kirby Moulton; What forces acted to set the 1987 wine grape price? – panel: Aram Kinosian, Lon Fletcher, John Ledbetter; New directions in measuring the quality of wine grapes – Keith Patterson, Dr. James Marois; What does it take to grow wine grapes profitably? panel: Pete Christensen, Ed Yeary, Don Levine; Quality differences between different grape production areas, speakers to be announced. Keynote luncheon speaker: US Senator Pete Wilson. **Location:** Satellite College Union. For more information contact: Grace Williams, CATI, CSU Fresno, Fresno, CA 93740; 209/294-2361.

MARCH 12-13

Regional White Riesling and Germanic Style White Wine Production Topics: Riesling and viticulture; Riesling and Germanic winemaking; Sensory evaluation. An Amer. Society of Enol. and Vit. regional meeting sponsored by Virginia Wineries Assoc. **Location:** Front Royal, VA. For more information contact Archie Smith, Meredyth Vineyards, PO Box 347, Middleburg, VA 22117; 703/687-6277.

MARCH 20-22

Monterey Wine Festival Vintage'88 200 exhibiting wineries will participate in these events: Sunday night champagne and dessert wine reception at Monterey Bay Aquarium; a tasting of red wines, Monday night, and white wines, Tuesday night; both at the Monterey Conference Center.

Educational programs include: A step-by-step approach to winning by Denis Waitley; How the pros taste wine, a tasting training session; Wine service training and wine merchandising – Keven Zraly of Windows on the World Restaurant, New York City; Wine sales training and wine promotions panel targeted toward retailers; Selection, purchasing and storage of wine; What's new, what's next? panel of California wine producers; New foods, new fads panel; What's new in Australian wines?; Wine lists and wine pricing panel led by Ronn Wiegand; Examination of wine labels; a legislative session; Champagne update.

Cost of Vintage'88 registration is $345/person for all events. For additional information, contact: National Restaurant Association, 150 N. Michigan Ave, Suite #2000, Chicago, IL 60601; 312/853-2525.

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MARCH 4, Friday

Legal Aspects of Establishing a Winery / Sect #873E09 Will acquaint anyone planning to establish a winery with legal requirements and agencies involved in the bonding approval process. Topics: Review of agencies; Choosing an organizational structure; Federal requirements to establish a bonded winery – Richard Gahagan, BATF; Obtaining a California Winegrower's License – Manny Espinoza, Alcoholic Bev. Control Board; Registrations and tax requirements; Working with the county permit system; Environmental health considerations – Trent Cave, Napa County; Label registration + trademarks. **Coordinators:** Debbie Keil + James Seff, attorneys. **Time:** 9am–5pm. **Location:** Faculty Club, Old Davis Rd, UCD. **Fee:** $90 includes lunch, pre-enroll by Feb. 26.

MARCH 5, Saturday

Advanced Tasting Seminar / Sect #873E07 Directed towards judging qualification tests required by many wine competitions. A tasting will duplicate many consistency / identification tests. The class assumes basic familiarity with wine types, flavor, odors, and flaws and will offer opportunity to test and expand basic tasting ability. **Instructor:** John Buechsenstein, winemaker, McDowell Valley Vineyard. **Time:** 9am–4:30pm. **Location:** Faculty Club, Old Davis Rd, UCD. **Fee:** $120 includes lunch, pre-enroll by Feb. 26.

MARCH 12 [Rescheduled from Jan. 30.]

Computers in Winery Operations / Sect #873E31 see PWV Calendar Nov/Dec 1987 page 44.

MARCH 29-30

Fundamentals of Table Wine Production / Sect #873E32 Introduction to commercial winemaking theory / practice–A training

program for upgrading cellar help, people supplying products to the wine industry, and newcomers to the industry. Program follows wine production from crush to bottling. A professional level class not intended for home winemakers. **Instructor:** George Cooke, Ext. Enologist. **Time:** Tuesday, 9am–6pm, Wednesday, 8:30am–5pm. **Location:** Wellman Hall-Rm 106, UCD. **Fee:** $185 includes two lunches + one social, pre-enroll by March 22.

APRIL 8, Friday

Legal Aspects of Winery Management / Sect #874E10 Topics: winery/distributor relationships and contracts; conforming with state laws for out-of-state sales; labor law for part-time and seasonal employees; acceptable trade practices for in-state sales; legal issues involved with participation in wine tastings. **Coordinators:** James Seff + Debra Keil, attorneys. **Time:** 9am–4pm. **Location:** Faculty Club, Old Davis Rd, UCD. **Fee:** $90 includes lunch + one wine social, pre-enroll by April 1.

APRIL 9-10

Introduction to Sensory Evaluation of Wine / Sect #874E05 see PWV Calendar Nov/Dec 1987 page 44, Sect #873E06.

APRIL 11-15

Statistical Quality Control / Sect #874E02 5-day course composed of 2 parts (Methods + Techniques, and Applications + Decision Making) which may be taken separately. First session introduces theory behind statistical sampling and covers various tests used in ensuring quality control. Second session covers simple tests which can be used on the job to interpret and control production. **Coordinator:** Bob Pearl, Ext. Food Technologist, UCD. **Time:** Mon: 7:45am–6pm; Tues: 7am– 8:30pm; Wed: 7am–5pm; Thurs: 7am–6pm; Fri: 7am–2pm. **Location:** Faculty Club, Old Davis Rd, UCD. **Fee:** $460 includes 5 lunches, 1 dinner, pre-enroll by April 4.

APRIL 22, Friday

Wine, Alcohol & Health / Sect #874E13 Designed to update wine industry members up on these current wine specific medical research / policy issues: Metabolic effects of alcohol; Physiology of alcohol addiction; Cancer and wine/alcohol consumption; Pregnancy–Is moderate drinking safe?; Proposition 65 compliance update; Do moderate drinkers live longer?; Allergic reactions to wine; Is wine a food?–A review of consumption patterns of beer, wine, and spirits; The future of regulation. **Coordinators:** Frederic Troy, prof., UCD School of Medicine; Jim Lapsley, UCD Ext. **Time:** 9am–4:30pm. **Location:** Faculty Club, Old Davis Rd, UCD. **Fee:** $85 includes lunch, pre-enroll by April 15.

APRIL 23, Saturday

Quality Assurance for Wineries / Sect #874E12 How to create and monitor a winery quality assurance program. Topics: overview of procurement quality assurance; defining supply and establishing specifications; vendor qualifications and vendor/vendee relationships; vendor audits / ratings; inspections / record keeping. A hands-on material testing lab addressing measurement techniques / equipment for supplies (corks, capsules, glass, papers / adhesives) is included. **Instructor:** Jim Takahashi, Domaine Chandon. **Time:** 9am–4pm. **Location:** Wellman Hall, West Quad, UCD. **Fee:** $90 includes lunch, pre-enroll by April 15.

APRIL 30, Saturday

Sensory Evaluation of Wine: **Chardonnay and Cabernet Sauvignon** / Sect #874E06 Designed to build upon basic wine skills acquired in intro. course. Winemakers to speak on production techniques and sensory aspects accompanied by barrel tastings. Doctored wine samples will demonstrate both flaws and attributes to help the student build a descriptive wine vocabulary. **Instructor:** John Buechsenstein, winemaker, McDowell Valley Vineyard. **Time:** 9am–4:30pm. **Location:** Faculty Club, Old Davis Rd, UCD. **Fee:** $125 includes lunch, pre-enroll by April 22.

For further information and to enroll by telephone using your VISA or MasterCard call 800/752-0881 in California. Davis and Dixon or out-of-state residents please call 916/752-0880.

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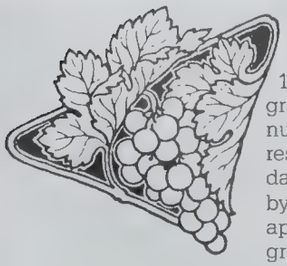

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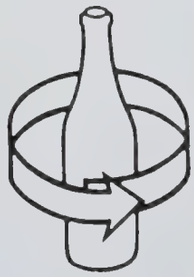

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is a complete bulk wine information management system, which can be easily customized to your needs. The software is available in both single-user and multi-user versions and runs on almost any personal computer. A hard disk is required.

The program is complete, powerful and very flexible, yet is easy to use. Personal support via modem for all installations is provided as well as on-site support as needed.

See story, "Winemakers' Database: Information Retrieval Simplified" in Nov/Dec 1986 PRACTICAL WINERY for more information.

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The Wine Lab

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Napa, CA 94559
Order Phone Machine: 707/224-7905
Lab/Office: 707/224-7903

SPOTLIGHT ON NEW INSTALLATIONS

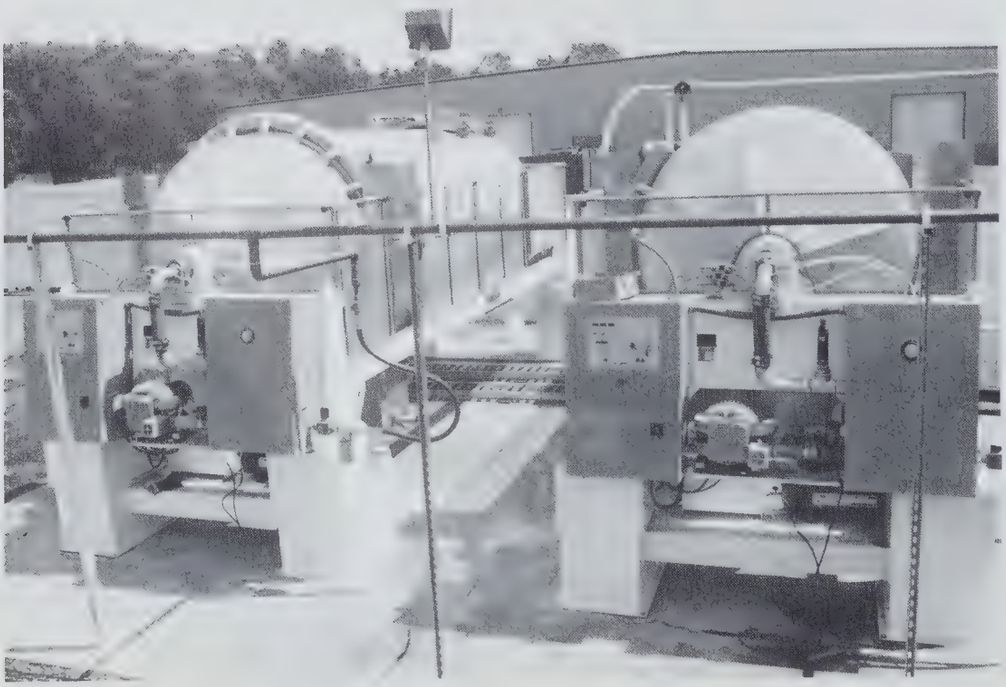
Pneumatic Grape Handling System Installed

Sunny St. Helena Winery has installed a REYCO Pneumatic System for grape unloading at the new St. Helena, CA winery. Winemaker, Philip Zorn, worked closely with the REY Industries project manager, Bob Yearsley, to design a system for the winery's requirements. The unloading rate during the first crush operation was nine tons/hour. A five-ton gondola was typically unloaded in 35 minutes.

The REYCO equipment was selected as cost-effective compared to alternative methods of unloading and provided a specific benefit of reduced space requirement and better access to the crushing/pressing floor. The hose can be coiled and stored out of the way and the equipment can readily be put into service just during the crushing season.

The REYCO pneumatic equipment can be used for pomace and stem removal, as well as for grape unloading.

For more equipment information, contact: REY Industries, Inc., in Boise, Idaho, 208/336-4821.



Two Diemme Tank Presses Installed at Sutter Home Winery

Two 13,000L Diemme tank presses were installed at Sutter Home Winery, St. Helena, CA for the 1987 harvest. They are the first batch presses at the winery and handled over 500 tons of grapes in 1987.

Steve Bertolucci, winemaker, reported yields over 180 gal/ton from Chardonnay, Chenin blanc, and Sauvignon blanc grapes that were axial-fed to the press. Each press has a hydraulic lifting mechanism to raise one end to assist unloading of the grape skins. The press has a self-contained air system for the valves and door gasket.

Diemme tank presses are available in sizes from 2300L to 26,000L. The hydraulic lifting mechanism is also available on the 26,000L model.

For more equipment information, contact: fp Packaging, 229 Ryan Way, So. San Francisco, CA 94083; 415/742-5400.

J. Lohr Winery Receives Two Portable Press/Trailers

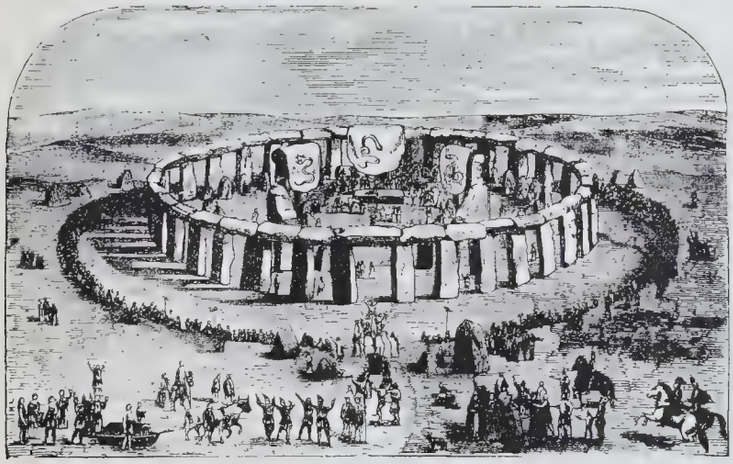
J. Lohr Winery, significantly increased their vineyard pressing capacity by taking delivery of two portable tank press/trailers built by Elmira Fabrication, Inc., for the 1987 harvest. They are 3,600L presses of heavy duty stainless steel construction installed on a heavy-duty custom trailer complete with auger for removal of grape skins.

The press/trailers were towed by pick-up truck between vineyards in the Sacramento Delta and Monterey County for pressing of Chenin blanc, Chardonnay, and Riesling grapes. The juice was collected in tankers and trucked to the winery in San Jose, CA.

The EFI press has a control system containing a state-of-the-art programmable controller with plug-in components. The control system can be easily diagnosed and serviced with immediate parts availability. The press has wedge-wire drain channels producing minimal sheer and preventing blinding by grape skins.

The portable press is available in sizes from 2,000L to 5,000L. Elmira can also manufacture a stationary tank press from 2,000L to 25,000L in size.

For more equipment information, contact: Elmira Fabrication, Inc., 765-A Eubanks Dr., Vacaville, CA 95688; 707/448-7210.



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PWV can not be everywhere at once—even though we try—so occasionally we miss an item or two.

Please help us out! If you have a new installation to share with our readers, call us, and let's talk about it. Everyone's interested in what's new. Here's your opportunity to be in the **SPOTLIGHT!**

Call 415/479-5819

DISTINCTIVE LABELS AID SALES

Joe Tarantino

Given the feverish competition among California wineries, marketing and sales techniques increasingly are targeted to the consumer. As important as quality and good reviews are to promoting sales, so too are consumer responses to packaging. This is equally true for new wineries trying to establish a market presence and for older wineries seeking to enhance their image.

Artistic labels have contributed to a dramatic turn-around at Santa Barbara Winery. Established in 1962, fruit and jug wines were initially produced. Realizing the limitations of this market segment, owner Pierre Lafond began plans to upgrade the product line. In 1972, a 55-acre vineyard was planted on the banks of the Santa Ynez River.

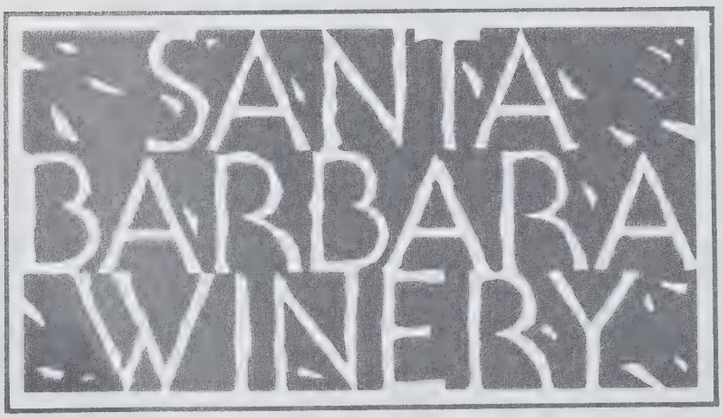
The winery made a transition to high-quality premium wines when the Cabernet Sauvignon, Chardonnay, Chenin Blanc, Riesling, and Zinfandel vines matured. A 20-acre expansion was planted in 1986 to include Pinot Noir and Sauvignon Blanc.

A new winemaker, Bruce McGuire, joined the winery after the 1981 crush. In 1983, the winery launched its first aggressive marketing program, directed by Julianne Poirier. Innovative watercolor labels created by Santa Barbara artist Mark Shields were introduced for blush wines and then expanded to include six varietal offerings and two reserve bottlings. The object was to improve the winery's image and sales.

The payoff has been big. Production has quadrupled from 7,000 cases in 1982 to 30,000 cases in 1987. The anticipated ceiling is 35,000. In 1982, the average wholesale price was $35.00 per case; today it is $52.00.

"No single factor is responsible for the winery's success," says Poirier. "Our bottlings have earned over 100 medals in wine judgings. The bold, bright labels are not a flash-in-the-pan promotion, but an effective sales tool and a symbol that this winery is in the big leagues. We needed to make a dynamic statement about the change of leadership. We changed direction in 1981, when Bruce (McGuire) became winemaker, but people didn't know it."

McGuire began his winemaking career in Sonoma County's Alexander Valley, working for Field Stone Winery. He later worked for R. & J. Cook in the Sacramento Delta region of California.



"Our vineyard is region I–II," reports McGuire. "We get good flavor development, low pH, high acidity. I strive for delicacy and balance. I don't like high alcohol or austerity in our wines."

New Labels Attract First-Time Buyers

The artistic, four-color labels cost more ($.06 each) than the two-color ($.03 each) labels the winery used prior to 1983. They have generated several benefits because of their visibility. The art occupies over half the label for a regular bottling and the entire label for reserve bottlings (Cabernet Sauvignon, Chardonnay).

"I am marketing wine, not art," emphasizes Poirier, "there is synergy, not competition, between the wine and the label. The public doesn't want anything too abstract. The most important thing is to see something they can identify with. Our label stands out on a retail shelf and encourages first-time buyers. We've found that first-time sales are mostly because of the label. The attractiveness imparts a 'clean' image, and that carries over to the wine.

"In this business, medals no longer generate sales. Everybody has medals. Buyers are influenced by labels. I've approached retail and restaurant buyers who say, 'I've seen too much . . .' Then they see the label and say, 'With a label that pretty, I've got to at least try it.' The labels are also attention-grabbers at public tastings. People come to look at the labels and end up trying the wine.

"Our broad range of stylistically-consistent premium wines has allowed us to find and fill niches. The range of wines we have is advantageous. A restaurant may have plenty of Chardonnays, but not a good, dry Chenin Blanc.

"I want to fill a niche. I want to see how we fit into a retailer's or restaurant's program. Sometimes it's the food, or the decor. If it's a sunny restaurant with outdoor seating, I might suggest our white Zinfandel. If it's a more austere setting, our Chardonnay. I ask prospective retailers what sells in what price range. We have enough variety so that most of our varietals sell out."

Presently, about half of Santa Barbara Winery's sales are in south-central and southern California. Out-of-state marketing accounts for about 15% of sales to restaurants and retailers in 25 states and Canada.

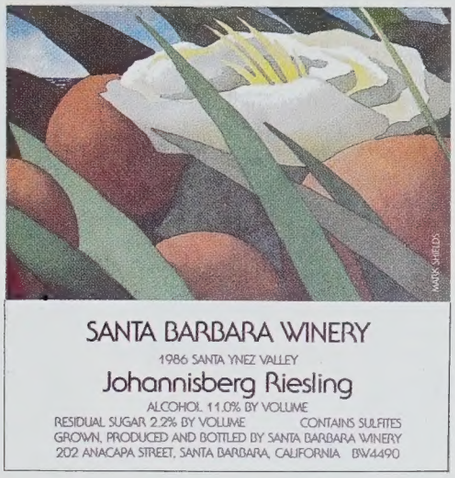
Label Art Expresses Character of Wine

Poirier says the labels are fairly descriptive of the essence of the wine in the bottle. For the lighter white wines, such as Johannisberg Riesling and White Zinfandel, Shields stresses bright, tropical color schemes and floral patterns. The more serious white wines have intricate images, portraying the wine's complexity. For heavier red wines, like Cabernet Sauvignon and Zinfandel, the strokes turn dark, intense, brooding, and a bit more abstract, as if to imply a parallel blossoming of image and wine over time.

Shields describes his label art as suggestive of the wine's structure. "My pictures have an open quality," he says. "They are not too interpretive. When people drink wine, they don't like to be told what it tastes like. I avoid specific descriptions of emotions and flavors. On a basic level, the colors relate to the color of the wine. We don't have borders around the work because we want the painting to work with the wine."

Shields, born and raised in Santa Barbara, tries to reflect Santa Barbara's landscape and lifestyle, which he describes, respectively, as lush, tropical and mountainous, and active, friendly and culturally sophisticated. His artworks contain some or all of these elements.

SANTA BARBARA WINERY
1986 SANTA YNEZ VALLEY
Chardonnay
ALCOHOL 12.4% BY VOLUME CONTAINS SULFITES
GROWN, PRODUCED AND BOTTLED BY SANTA BARBARA WINERY
202 ANACAPA, SANTA BARBARA, CALIFORNIA, USA BW4490


MARK SHIELDS
SANTA BARBARA WINERY
1986 SANTA YNEZ VALLEY
Johannisberg Riesling
ALCOHOL 11.0% BY VOLUME
RESIDUAL SUGAR 2.2% BY VOLUME CONTAINS SULFITES
GROWN, PRODUCED AND BOTTLED BY SANTA BARBARA WINERY
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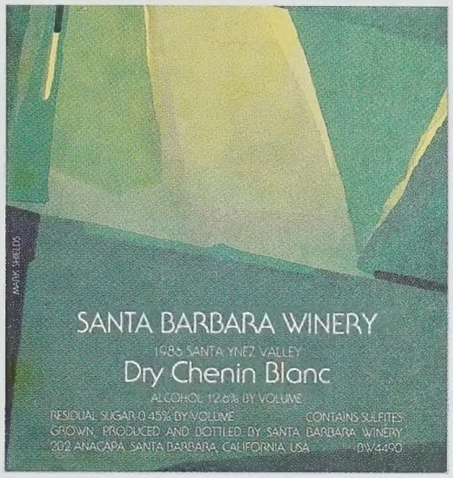
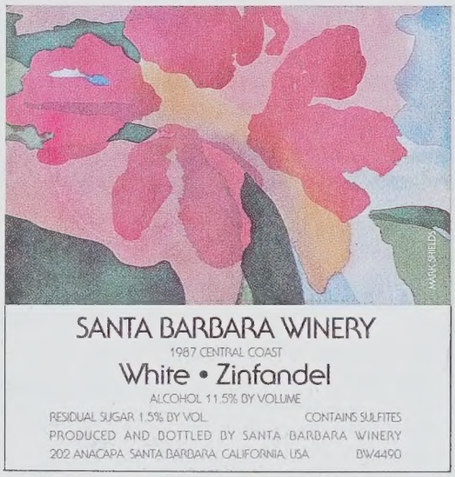

MARK SHIELDS
SANTA BARBARA WINERY
1986 SANTA YNEZ VALLEY
Dry Chenin Blanc
ALCOHOL 12.6% BY VOLUME
RESIDUAL SUGAR 0.45% BY VOLUME CONTAINS SULFITES
GROWN, PRODUCED AND BOTTLED BY SANTA BARBARA WINERY
202 ANACAPA, SANTA BARBARA, CALIFORNIA, USA BW4490


MARK SHIELDS
SANTA BARBARA WINERY
1987 CENTRAL COAST
White • Zinfandel
ALCOHOL 11.5% BY VOLUME
RESIDUAL SUGAR 1.5% BY VOL. CONTAINS SULFITES
PRODUCED AND BOTTLED BY SANTA BARBARA WINERY
202 ANACAPA, SANTA BARBARA, CALIFORNIA, USA BW4490

Most of the wines, including white Zinfandel, Cabernet Sauvignon, and Chardonnay, have a new label each vintage. "Mark's paintings have evolved along with Bruce's wines," noted Poirier. "We change the painting periodically to allow the label to exemplify the refinement of both the artwork and the wine."

"This doesn't mean that we change each varietal label every year," says McGuire. "Whether or not the label accurately reflects the contents, peoples' opinions, and the economics of printing a new label for a very small lot are important considerations."

Artist Works Closely With Winery

The method by which Shields works closely involves him in the winemaking process. "I taste from barrel to bottle, in some cases from vineyard to bottle," he says. "I visit the vineyard every year. The activity creates an emotional involvement. A feeling, taste, or mood gets transferred to the label. I work closely with Bruce and Julianne. My job is to come up with a label to reflect their intentions."

But the creative process is easier described than executed. "Watercolor is difficult," Shields continues, "because you can't erase. You have to approach it with an idea in place and see it through." Shields counters this limitation by doing three pieces simultaneously. He starts with a pen/ink sketch, then pencils onto watercolor paper to create the format. Shields uses 300-lb watercolor paper for its strength, rough texture, and high saturation level.

He paints light colors first, then dark colors. (Colors are generously applied, especially darker colors.) "The paintings come together in terms of shape and color instead of design," he says, "and anything can happen. From start (pencil sketch on watercolor paper) to finish takes a day on average. But the visualization can take one month."

The labels are printed in Santa Barbara by Elmer Pickard Printing on a four-color printing press. A maximum of 12 label images are printed on a press sheet.

In the years ahead, possible adjustments to the format include increasing the size of the art and/or the label, more abstract designs, and a switch to oils. Another application is label coasters laminated in clear plastic sold for $1.00 each in the tasting room.There are also 12x14 posters of six labels, available in the winery tasting room for $1.99 each. The posters are sent to retailers for use on top of a floor stack for point-of-sale display.

Shields' label art has provided Santa Barbara Winery with an identity, perhaps the most crucial element of a successful marketing program. For this winery, the challenge is to maintain consistency in label appeal and wine quality. "The label not only represents what's in the bottle, but Santa Barbara proper," says McGuire.

"We use the appeal of the city and surroundings as a part of our marketing," adds Poirier. "When introducing our brand to a new market, first-time sales are often due to the attractiveness of the labels. The wines taste good and the price is right, so repeat sales are excellent."

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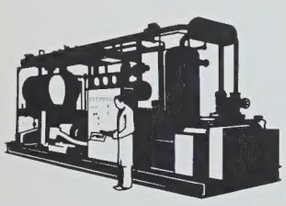

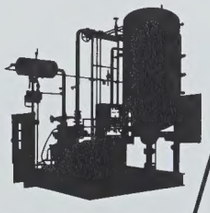

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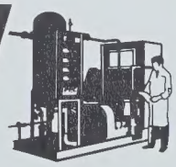

NJM PRESENTS THE NEW LOW-COST

MUSTANG

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CONTAINER FEATURES: Handles round containers—ounces to gallons ...Easily labels glass, plastic or metal containers...Has extremely good adhesive range...Applies thin even glue film for no-smear appearance.

OPERATIONAL FEATURES: Fully automatic performance...Speeds to 250 containers per minute... Few, if any, change parts required ...Rugged, solid, technically sound construction...Fast changeovers... Ideal for short runs...Simple, unique, quick cleanup system.

If you need a labeler, and if low cost investment, easy installation and rapid payback are important — you *must* consider MUSTANG! Phone the *"Pony Girl"* at (201) 227-8300 for more information — or write her ... attention Dept. D

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